May 1, 2017, Item #12 / June 5, 2017, Item # 9

DEPARTMENT OF COMMUNITY SERVICES
PLANNING DIVISION
TOWN OF WEST HARTFORD
50 SOUTH MAIN STREET
WEST HARTFORD, CT 06107-2431
TEL: (860) 561-7555 FAX: (860) 561-7504
www.westhartford.org

PERMIT APPLICATION FOR INLAND WETLANDS & WATERCOURSES ACTIVITY: (check one of the following)

___ MAP AMENDMENT X REGULATED ACTIVITY $20. SIGN AFFIDAVIT: $20.

File # 1063-RI-17 Application Fee $520. CK#1352 Surcharge Fee $60. Date Received 3.17.17

Street Address of Proposed Application: 178 Westmont

Zone: R-20 Acreage/Lot Area 0.84 Parcel/Lot# 6081/178

Applicant's Interest in Property:
Applicant is responsible for development of property

Brief Description of Proposed Activity:
Construct single family residence on undeveloped lot

The undersigned warrants the truth of all statements contained herein and in all supporting documents to the best of his/her knowledge and belief. Furthermore, the applicant agrees that submission of this document constitutes permission and consent to Commission and Staff inspections of the site. ***Note: Notice is hereby given the Connecticut Department of Public Health must be notified by applicants for any project located within a public water supply aquifer protection area or watershed area. (CTDPH website at http://www.dph.state.ct.us)***

Record Owner	Applicant
188 Westmont Lot B LLC (Record Owner's Name)	Sal Leone (Applicant's Name)
178 Westmont (Street)	169 Rutledge Road (Street)
W. Hartford CT 06117 (City State Zip)	Wethersfield CT 06109 (City State Zip)
Te (Telephone #)	860-830-5756 (Telephone #)

Contact Person:

Sal Leone
Name

169 Rutledge Road
Street

Wethersfield CT 06109
City State Zip

860-830-5756
Telephone #

leoneconstruction@gmail.com
E-Mail

Salvatore Leone 3/17/2017
Applicant's Signature

Signature of Owner/Authorized Agent

RECEIVED
MAR 17 2017
PLANNING & ZO... ...SION
Town of West Hartford

U:sd/TPZ/Templates/IWWAPermitApplication_April13

FREEMAN
COMPANIES

LAND DEVELOPMENT
ENGINEERING DESIGN
CONSTRUCTION SERVICES

RECEIVED
MAY 31 2017
PLANNING & ZONING DIVISION
Town of West Hartford, CT

STATE OF CONNECTICUT
DARIN M. LEMIRE
NO. 25501
LICENSED
PROFESSIONAL ENGINEER

Date:	**February 16, 2017 (Revised May 30, 2017)**
To:	**Planning & Zoning Commission**
From:	**Darin Lemire, PE** **Freeman Companies, LLC**
Subject:	**Drainage Memorandum** **178 Westmont** **West Hartford, Connecticut**

The project is the residential development of a 0.84 acre property located in a R-20 zoned area. The lot was created previously by a subdivision of an existing lot (188 Westmont). The project site is presently an undeveloped lot that contains wetland areas. The proposed development is the construction of a single family residence with garage with a paved driveway. The proposed development includes a wetlands mitigation plan.

According to soil scientist report, the site consists of Wethersfield Loam, Ludlow Loam, Udorthents and wetlands soil. Wetlands located on the site were field delineated by REMA Ecological LLC and descriptions can be found in their report. The subject property contains no existing stormwater system. The proposed development would consist of infiltration swales, wetland mitigation areas, a culvert for the driveway, and a yard drain connecting to the Town's drainage system on the roadway. The analysis of the existing site and design of the proposed drainage used the northeast corner of the lot (low point for property) as the stormwater design point.

The intent of the proposed site drainage is to mimic the existing drainage patterns as much as possible while taking into account the existing site features. The proposed system will include a "treatment train" approach that provides for multiple primary BMPs, a combination of primary and secondary practices or multiple secondary treatment practices to satisfy the criteria for stormwater treatment. The benefits of the treatment train approach include increasing the level and reliability of pollutant removal, achieving multiple stormwater management objectives (such as pollutant removal, peak runoff attenuation, runoff volume reduction. The proposed drainage system is designed in accordance with the State of Connecticut Stormwater Control Manual published in 2004 and the CT DEEP 2002 Sedimentation and Erosion Control Manual.

The drainage area for the site was delineated using Town of West Hartford Engineering Map

FREEMAN
COMPANIES

dated May 2015. The existing and proposed drainage areas were calculated to be 3.08 acres. The drainage areas were divided into impervious areas, wooded, and grass areas. Stormwater runoff was modeled using Hydroflow Hydrographs. The Rational Method was used to determine flow rates and discharges. TR-55 was used to determine the time of concentrations. The pre development flow and post development flows were determined for the site assuming no storage from new mitigation areas. Then post development flows for the site were calculated for site assuming there would be detention from the mitigation areas and existing wetland at the low point of the site. The amount of detention was calculated to be 2,900 cf and an infiltration rate of 3 inches per hour was assumed in the calculation.

Below is a summary of the existing and proposed conditions followed by a table for the different year storms:

Year Flow	Existing Flow Rate	Proposed Flow Rate
2	1.38 cfs	0.63 cfs
10	2.0 cfs	1.61 cfs
25	2.36 cfs	2.12 cfs
100	2.90 cfs	2.89 cfs

Conclusions

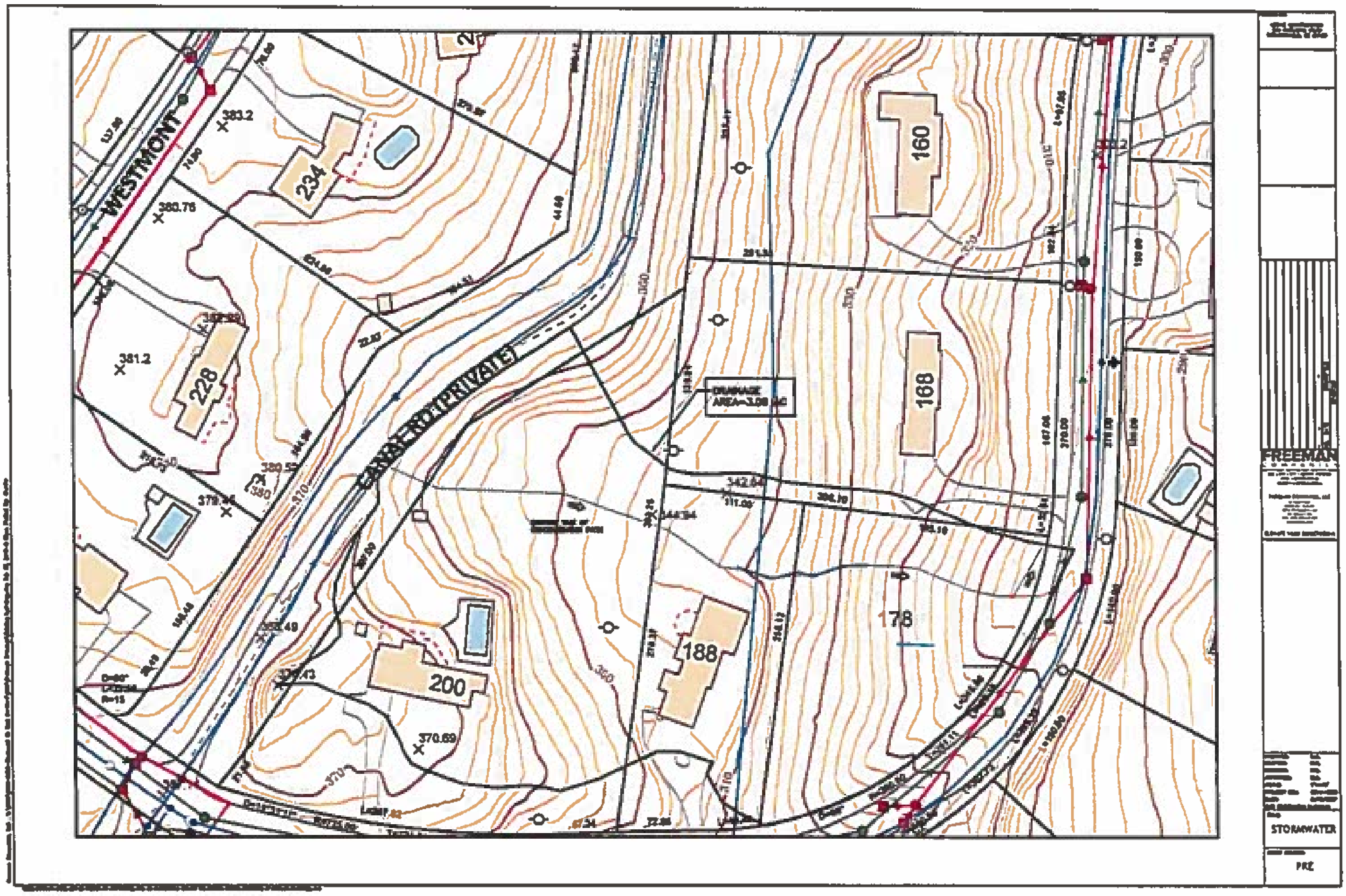
The table below shows the results of the pre and post re-development related to stormwater peak flow rate and volumes. As a result of this comparison it is demonstrated that the proposed development drainage system will reduce both the stormwater runoff flow rates and the stormwater runoff volumes. The existing drainage patterns will not be significantly changed or adversely affected by the proposed development. The proposed development will have not have adverse impacts on the existing infrastructure and down-gradient properties as result of proposed stormwater flows.

Attachments

A-Sheet Pre Existing Drainage Area Map
B-Sheet Post Proposed Drainage Area Map
C-Hydrograph Report
D-Stormwater Calculations

Attachment A

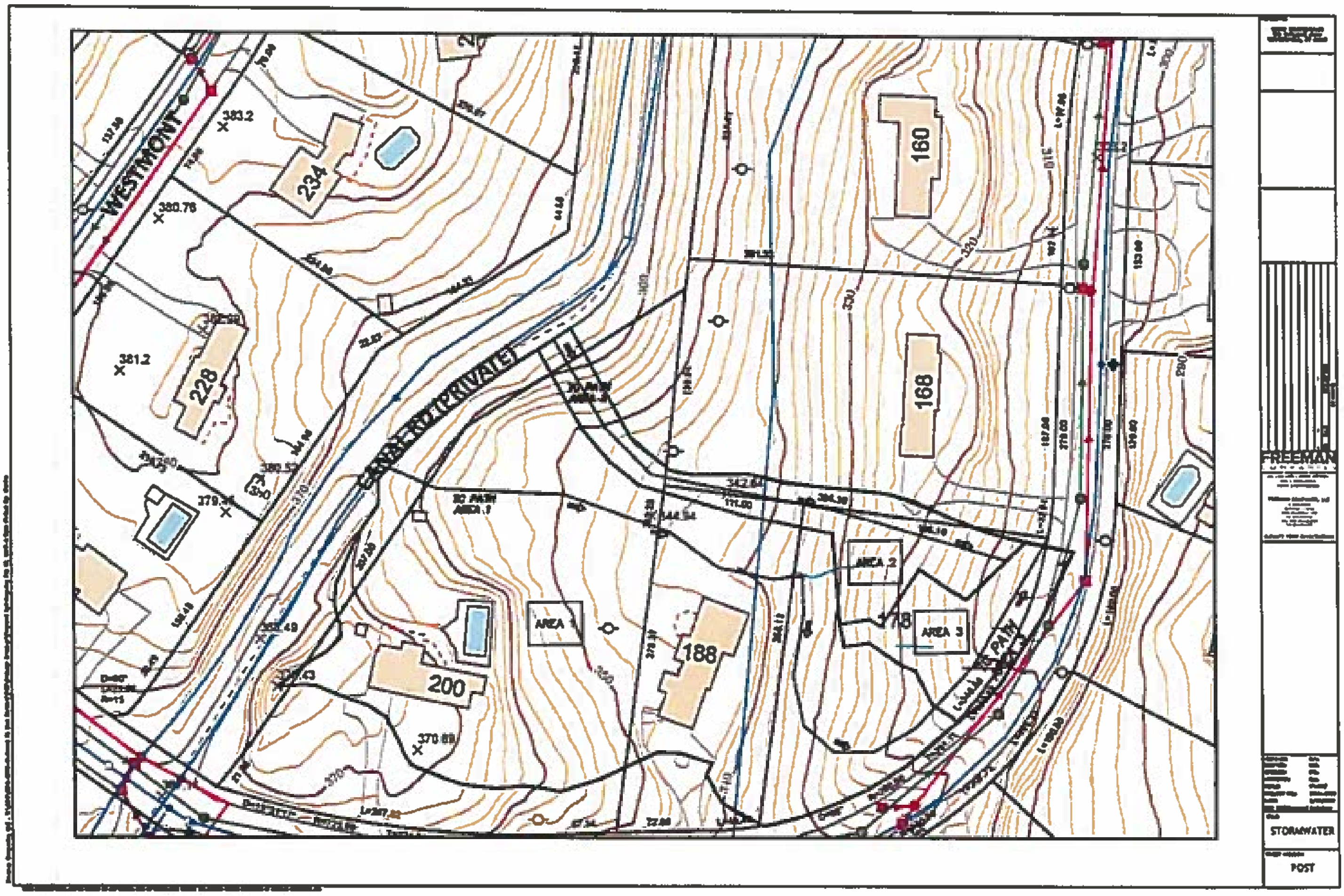
Existing Drainage Area Map



WESTMONT
CANAL RD (PRIVATE)
234
228
200
188
178
168
160
DRAINAGE
AREA=3.08 AC
383.2
380.76
381.2
370.69
342.84
FREEMAN
STORMWATER
PRE

Attachment B

Proposed Drainage Area Map



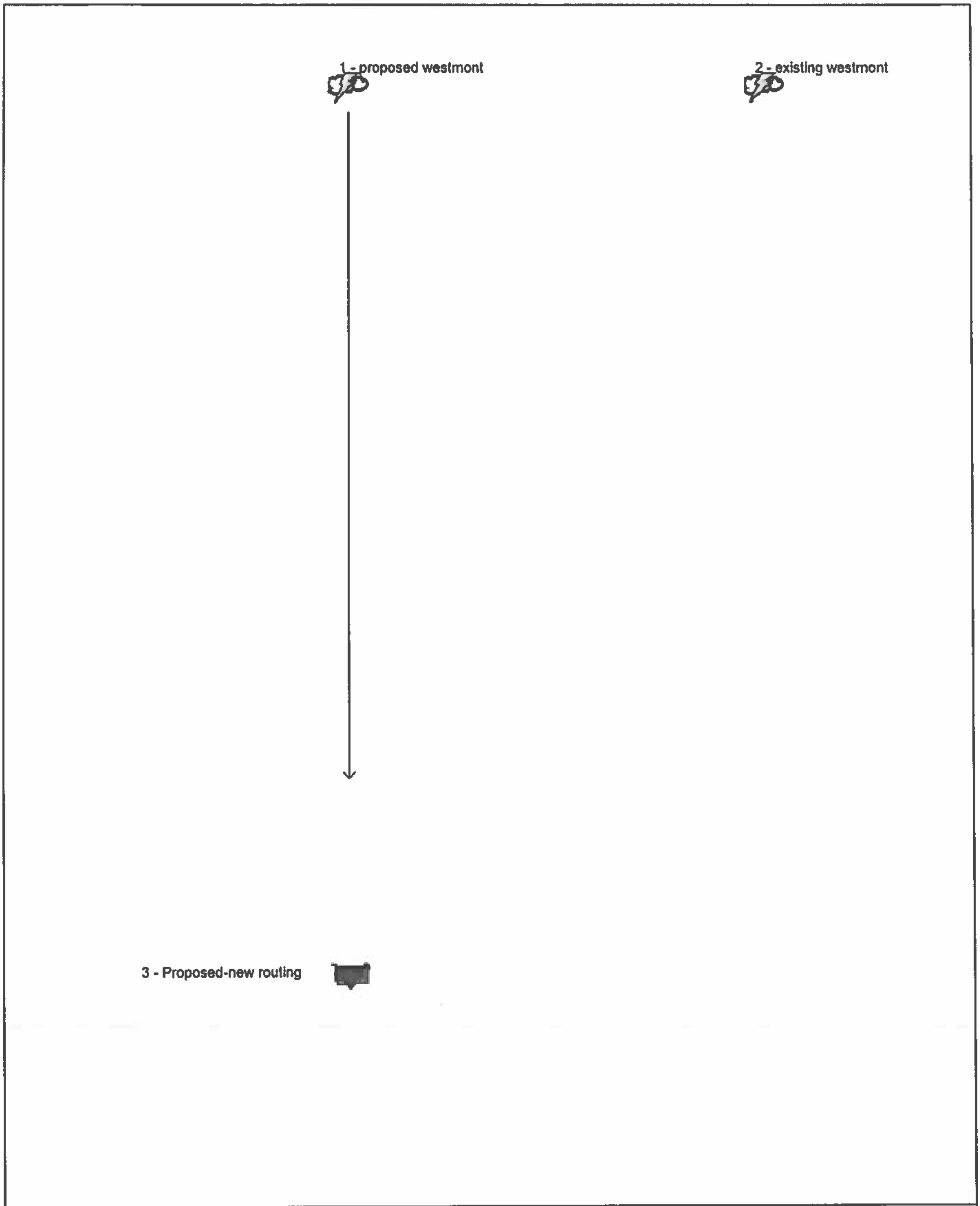
WESTMONT
CANAL RD (PRIVATE)
383.2
380.76
381.2
379.36
378.89
234
228
200
188
168
160
178
AREA 1
AREA 2
AREA 3
FREEMAN
STORMWATER
POST

Attachment C

Hydrograph Report

Watershed Model Schematic

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3



Project: WESTMONT.gpw	Monday, 02 / 27 / 2017

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	Rational	------	-------	1.507	-------	-------	2.203	2.593	2.895	3.194	proposed westmont
2	Rational	------	-------	1.378	-------	-------	2.006	2.359	2.629	2.895	existing westmont
3	Reservoir	1	-------	0.629	-------	-------	1.610	2.124	2.516	2.890	Proposed-new routing

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	1.507	1	25	3,390	------	------	------	proposed westmont
2	Rational	1.378	1	23	2,851	------	------	------	existing westmont
3	Reservoir	0.629	1	53	1,885	1	303.77	2,187	Proposed-new routing

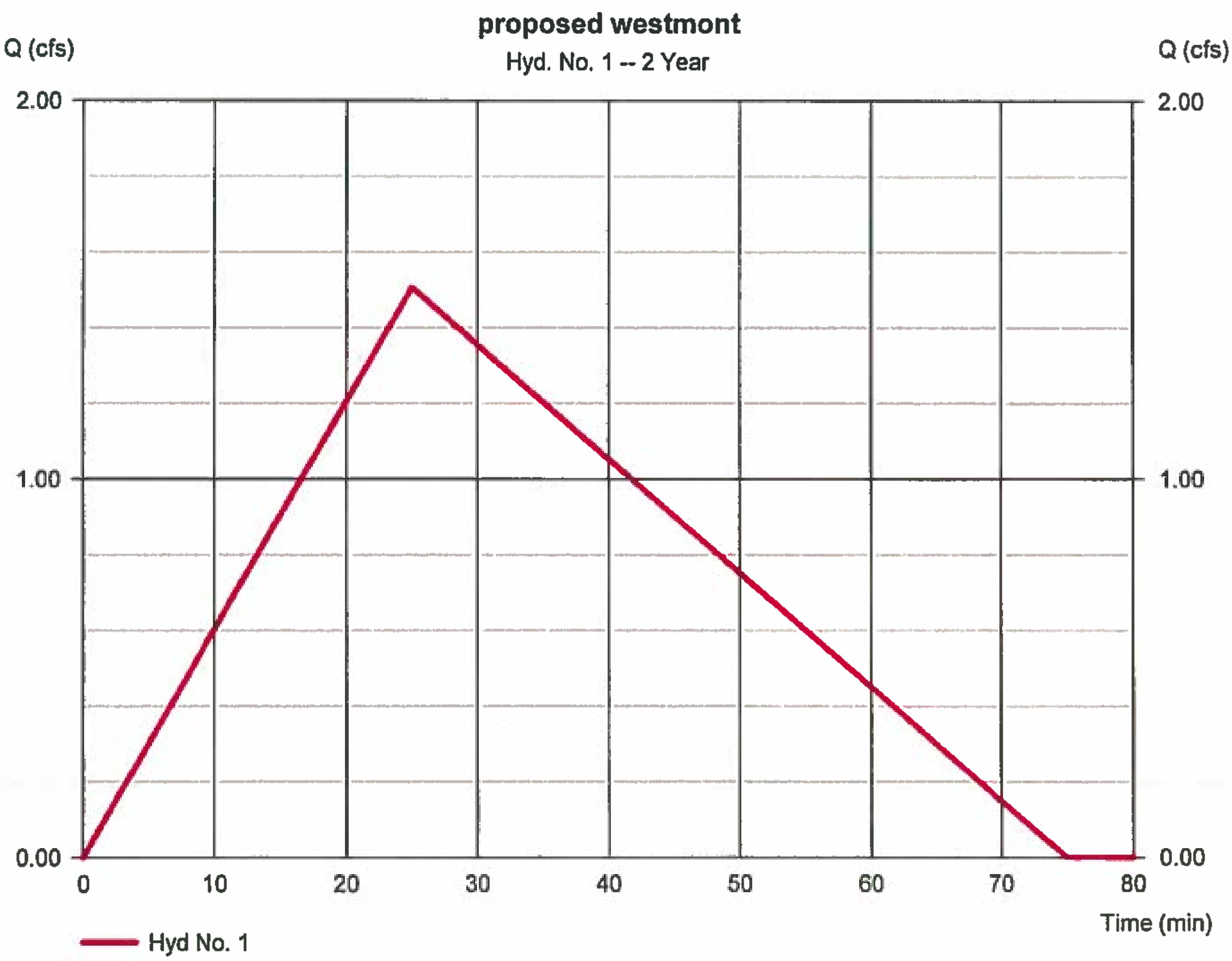
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 1

proposed westmont

Hydrograph type	= Rational	Peak discharge	= 1.507 cfs
Storm frequency	= 2 yrs	Time to peak	= 25 min
Time interval	= 1 min	Hyd. volume	= 3,390 cuft
Drainage area	= 3.080 ac	Runoff coeff.	= 0.23
Intensity	= 2.127 in/hr	Tc by User	= 25.00 min
IDF Curve	= Connecticut DOT.IDF	Asc/Rec limb fact	= 1/2



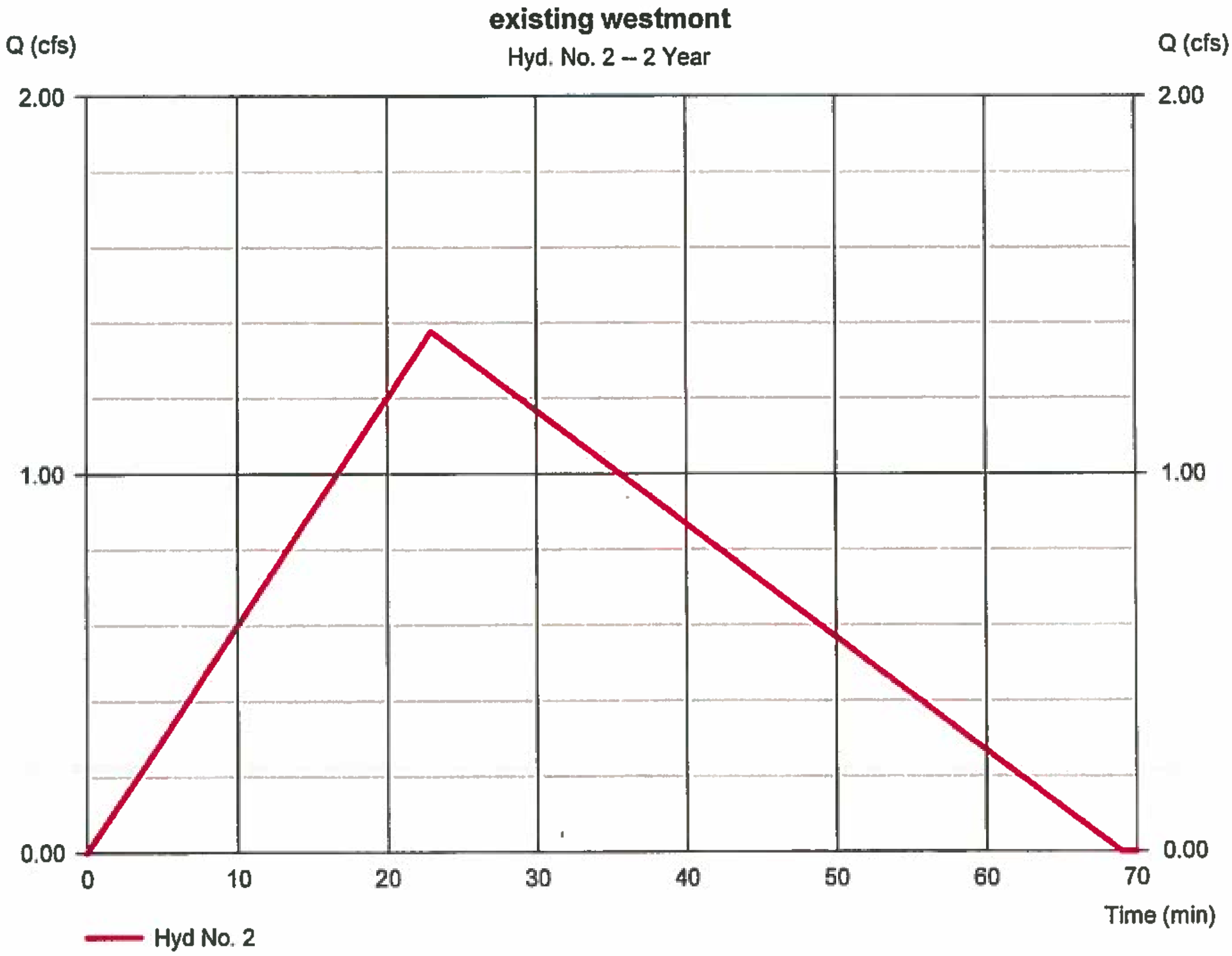
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 2

existing westmont

Hydrograph type	= Rational	Peak discharge	= 1.378 cfs
Storm frequency	= 2 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 2,851 cuft
Drainage area	= 3.080 ac	Runoff coeff.	= 0.2
Intensity	= 2.236 in/hr	Tc by User	= 23.00 min
IDF Curve	= Connecticut DOT.IDF	Asc/Rec limb fact	= 1/2



Hydrograph Report

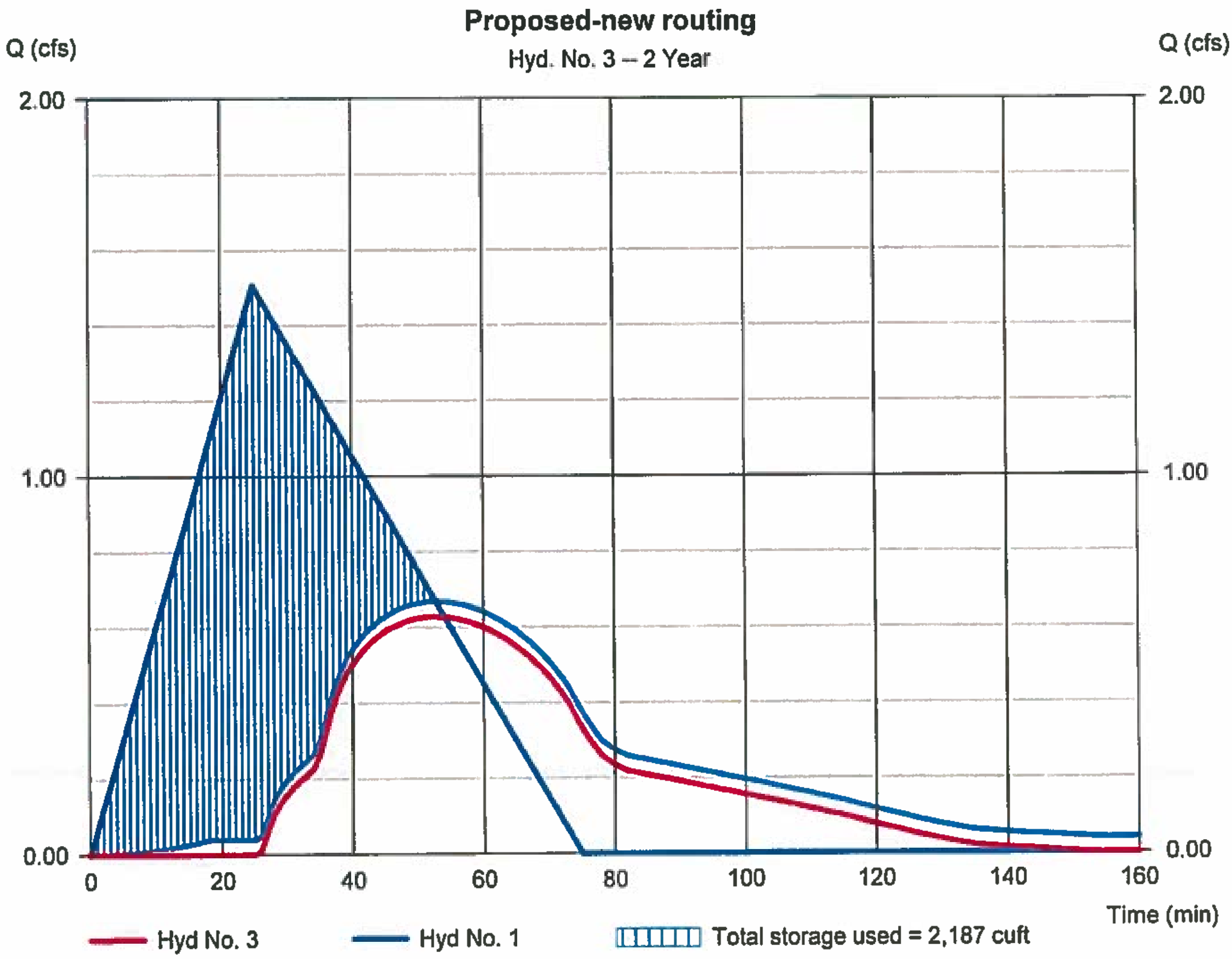
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 3

Proposed-new routing

Hydrograph type	= Reservoir	Peak discharge	= 0.629 cfs
Storm frequency	= 2 yrs	Time to peak	= 53 min
Time interval	= 1 min	Hyd. volume	= 1,885 cuft
Inflow hyd. No.	= 1 - proposed westmont	Max. Elevation	= 303.77 ft
Reservoir name	= Sitewide detention (all wetlan	Max. Storage	= 2,187 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	2.203	1	25	4,956	------	------	------	proposed westmont
2	Rational	2.006	1	23	4,152	------	------	------	existing westmont
3	Reservoir	1.610	1	38	3,431	1	304.23	2,454	Proposed-new routing

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 1

proposed westmont

Hydrograph type	= Rational	Peak discharge	= 2.203 cfs
Storm frequency	= 10 yrs	Time to peak	= 25 min
Time interval	= 1 min	Hyd. volume	= 4,956 cuft
Drainage area	= 3.080 ac	Runoff coeff.	= 0.23
Intensity	= 3.109 in/hr	Tc by User	= 25.00 min
IDF Curve	= Connecticut DOT.IDF	Asc/Rec limb fact	= 1/2

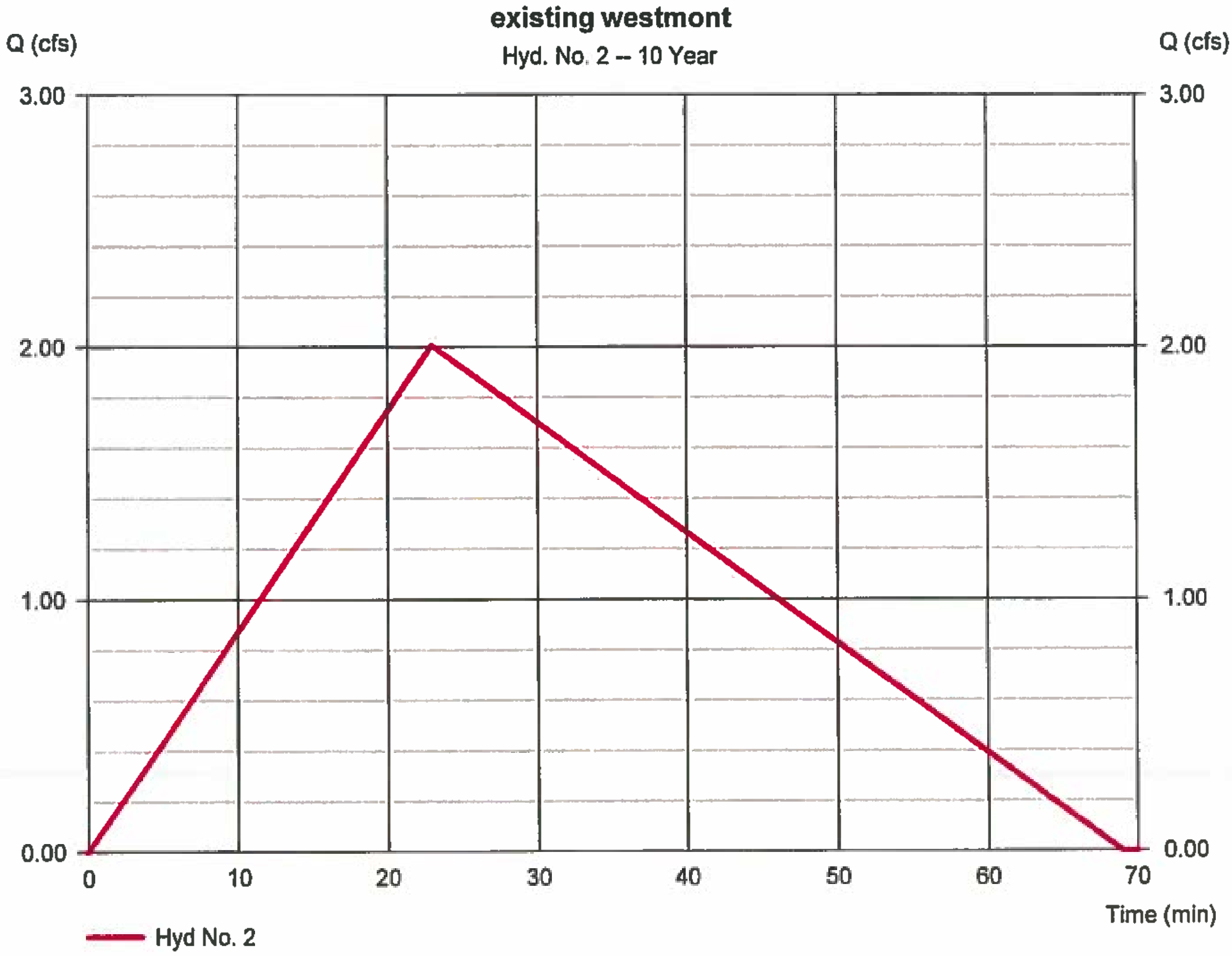
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 2

existing westmont

Hydrograph type	= Rational	Peak discharge	= 2.006 cfs
Storm frequency	= 10 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 4,152 cuft
Drainage area	= 3.080 ac	Runoff coeff.	= 0.2
Intensity	= 3.256 in/hr	Tc by User	= 23.00 min
IDF Curve	= Connecticut DOT.IDF	Asc/Rec limb fact	= 1/2



Hydrograph Report

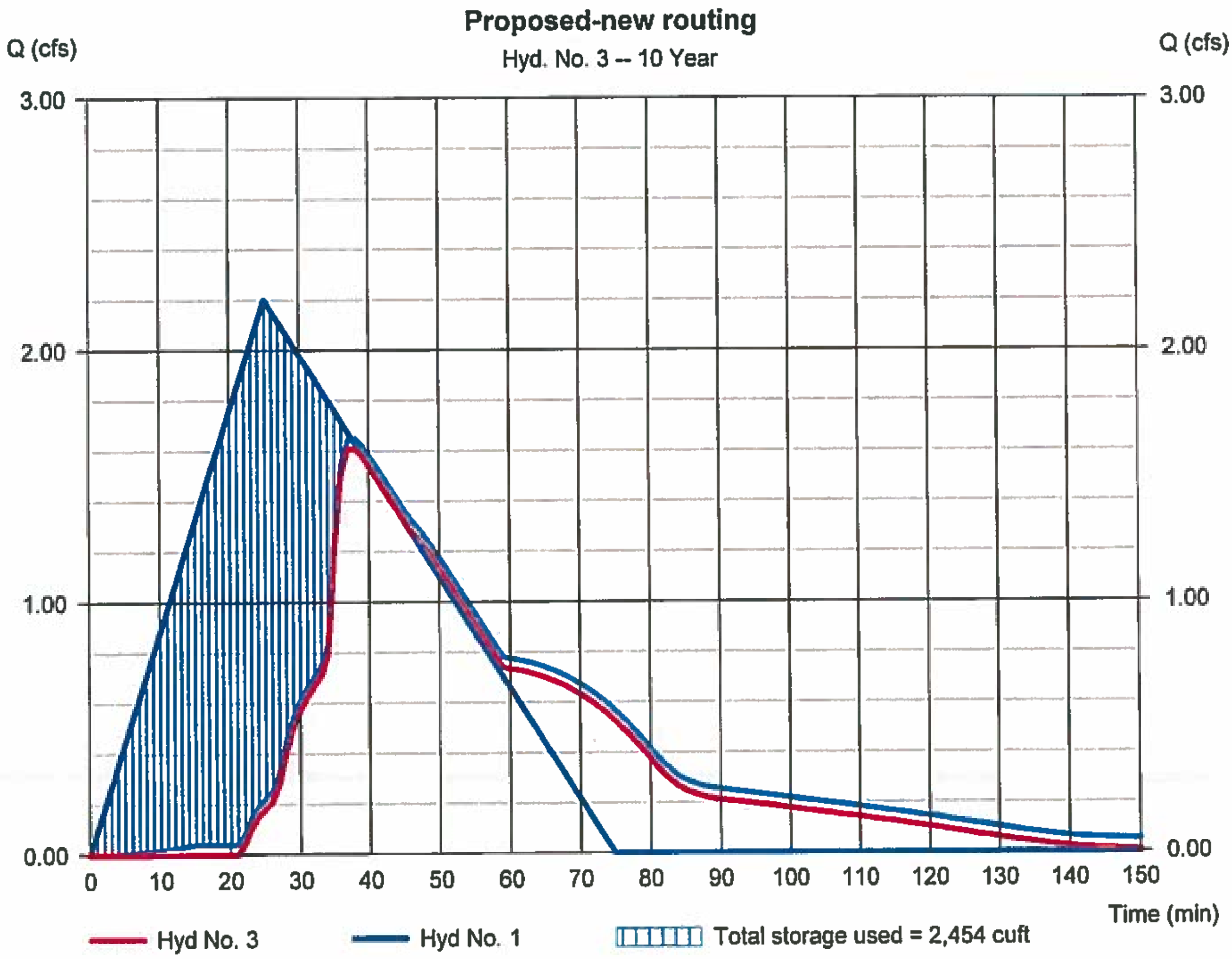
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 3

Proposed-new routing

Hydrograph type	= Reservoir	Peak discharge	= 1.610 cfs
Storm frequency	= 10 yrs	Time to peak	= 38 min
Time interval	= 1 min	Hyd. volume	= 3,431 cuft
Inflow hyd. No.	= 1 - proposed westmont	Max. Elevation	= 304.23 ft
Reservoir name	= Sitewide detention (all wetlands)	Max. Storage	= 2,454 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	2.593	1	25	5,835	------	------	------	proposed westmont
2	Rational	2.359	1	23	4,883	------	------	------	existing westmont
3	Reservoir	2.124	1	33	4,305	1	304.28	2,485	Proposed-new routing

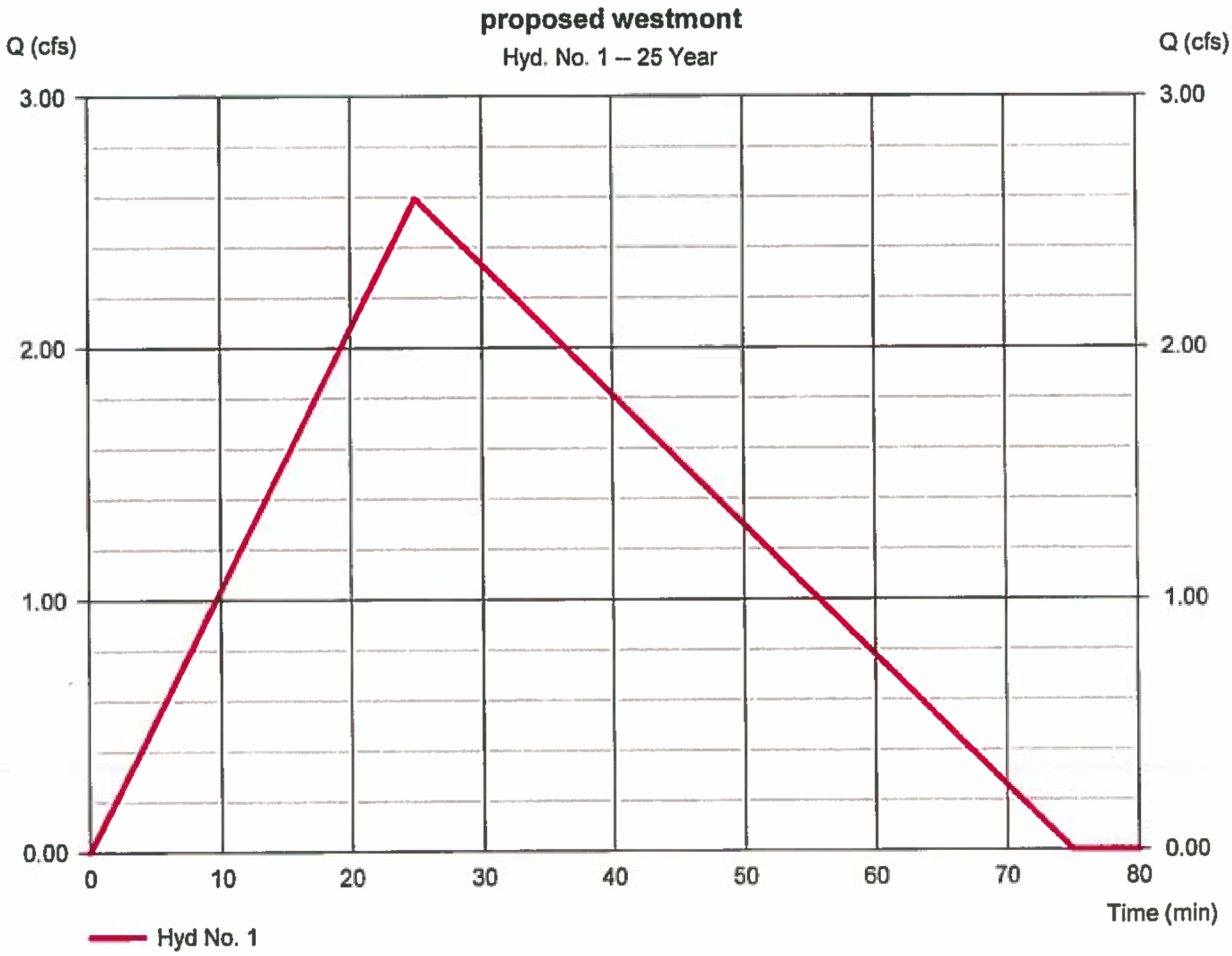
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 1

proposed westmont

Hydrograph type	= Rational	Peak discharge	= 2.593 cfs
Storm frequency	= 25 yrs	Time to peak	= 25 min
Time interval	= 1 min	Hyd. volume	= 5,835 cuft
Drainage area	= 3.080 ac	Runoff coeff.	= 0.23
Intensity	= 3.661 in/hr	Tc by User	= 25.00 min
IDF Curve	= Connecticut DOT.IDF	Asc/Rec limb fact	= 1/2



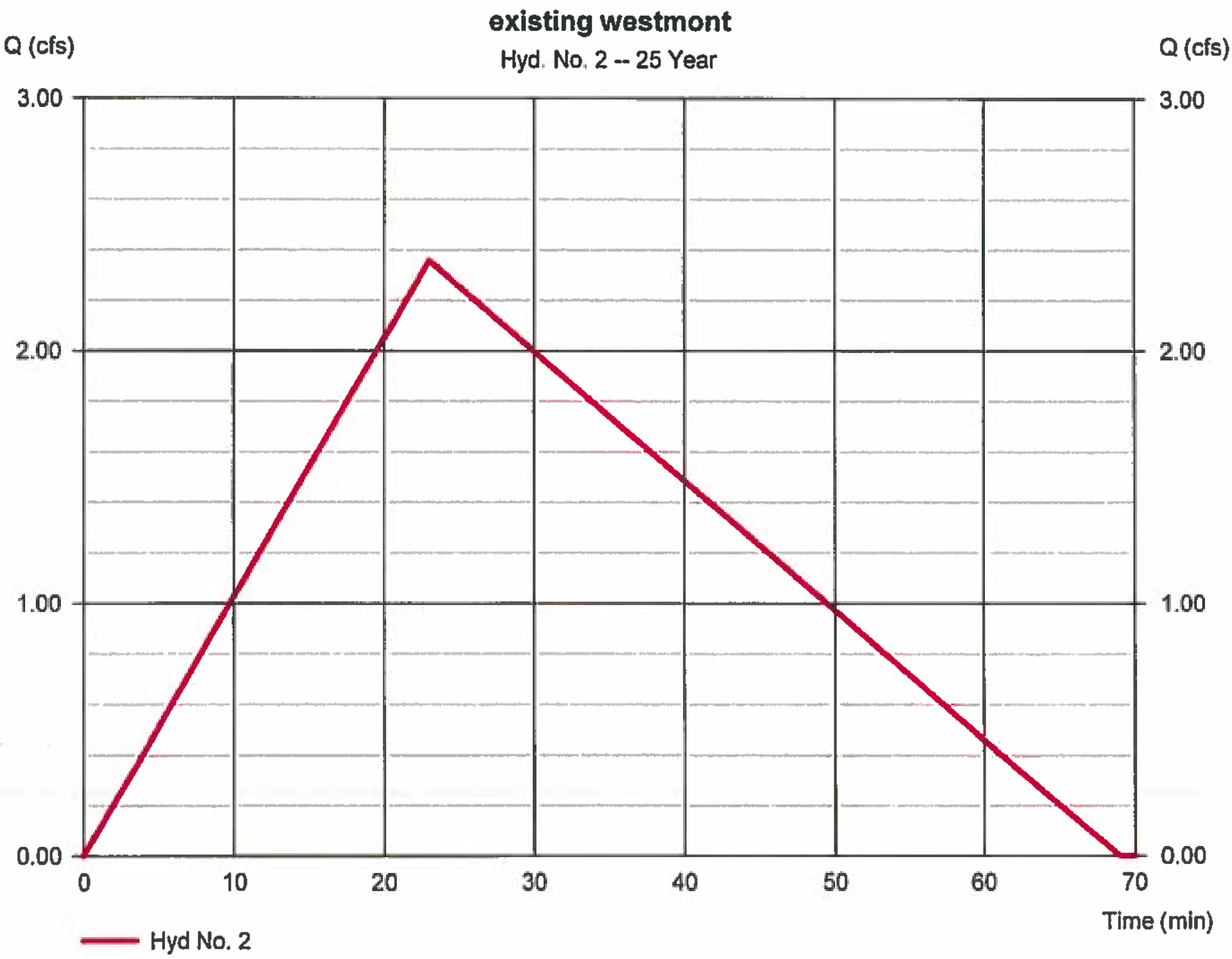
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 — Monday, 02 / 27 / 2017

Hyd. No. 2

existing westmont

Hydrograph type	= Rational	Peak discharge	= 2.359 cfs
Storm frequency	= 25 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 4,883 cuft
Drainage area	= 3.080 ac	Runoff coeff.	= 0.2
Intensity	= 3.829 in/hr	Tc by User	= 23.00 min
IDF Curve	= Connecticut DOT.IDF	Asc/Rec limb fact	= 1/2



Hydrograph Report

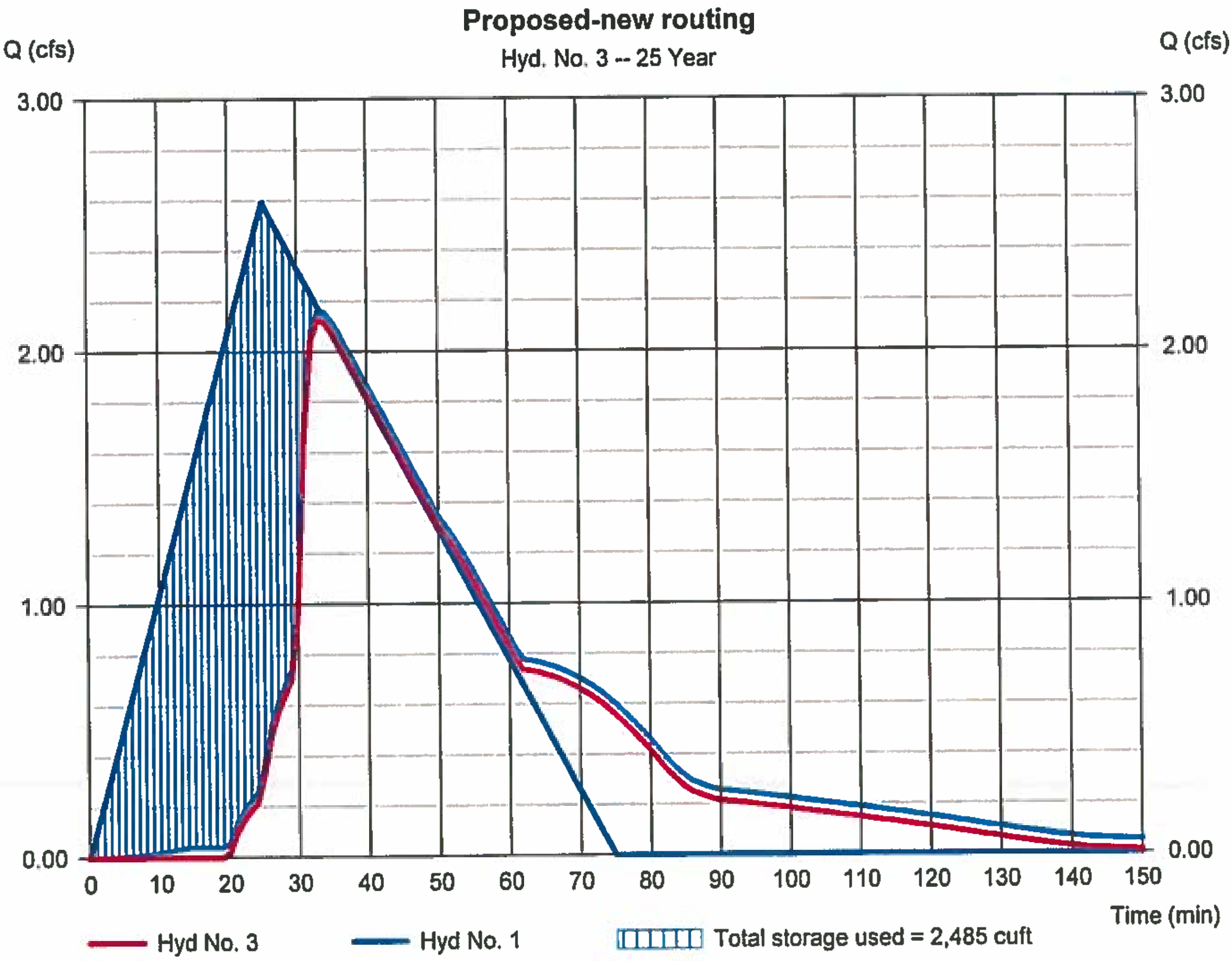
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 — Monday, 02 / 27 / 2017

Hyd. No. 3

Proposed-new routing

Hydrograph type	= Reservoir	Peak discharge	= 2.124 cfs
Storm frequency	= 25 yrs	Time to peak	= 33 min
Time interval	= 1 min	Hyd. volume	= 4,305 cuft
Inflow hyd. No.	= 1 - proposed westmont	Max. Elevation	= 304.28 ft
Reservoir name	= Sitewide detention (all wetland areas)	Max. Storage	= 2,485 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	2.895	1	25	6,514	------	------	------	proposed westmont
2	Rational	2.629	1	23	5,441	------	------	------	existing westmont
3	Reservoir	2.516	1	31	4,981	1	304.32	2,505	Proposed-new routing

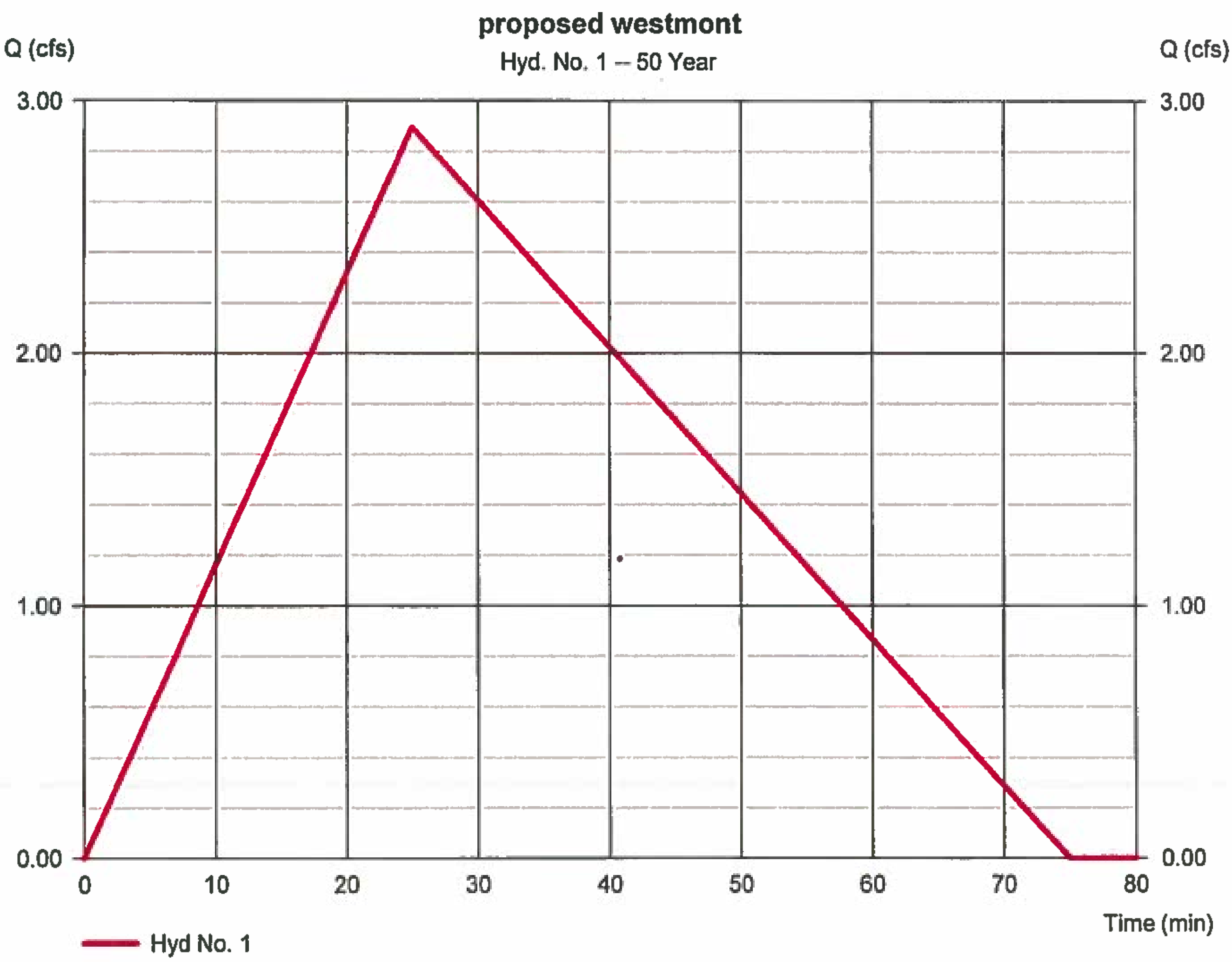
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 1

proposed westmont

Hydrograph type	= Rational	Peak discharge	= 2.895 cfs
Storm frequency	= 50 yrs	Time to peak	= 25 min
Time interval	= 1 min	Hyd. volume	= 6,514 cuft
Drainage area	= 3.080 ac	Runoff coeff.	= 0.23
Intensity	= 4.087 in/hr	Tc by User	= 25.00 min
IDF Curve	= Connecticut DOT.IDF	Asc/Rec limb fact	= 1/2



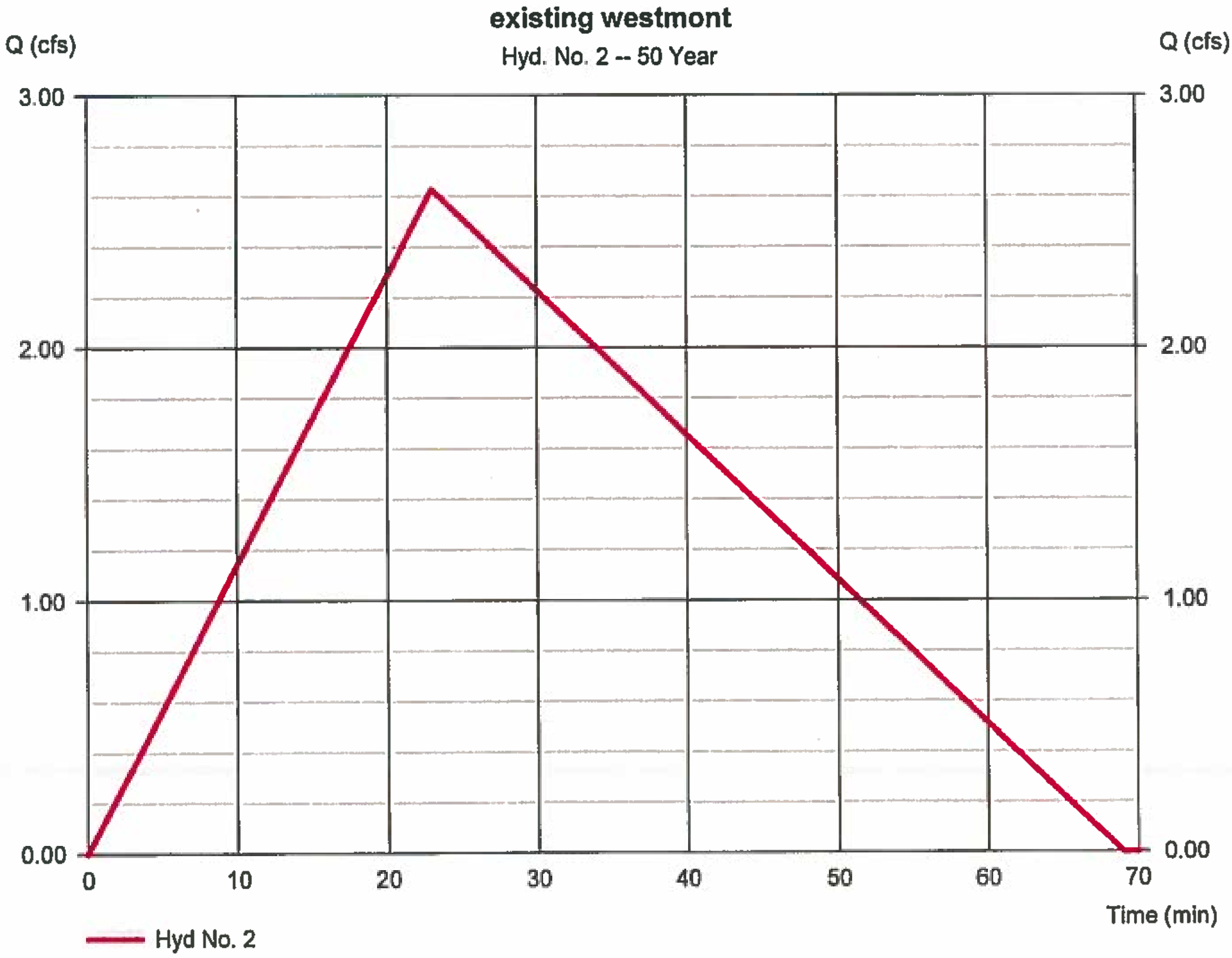
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 2

existing westmont

Hydrograph type	= Rational	Peak discharge	= 2.629 cfs
Storm frequency	= 50 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 5,441 cuft
Drainage area	= 3.080 ac	Runoff coeff.	= 0.2
Intensity	= 4.267 in/hr	Tc by User	= 23.00 min
IDF Curve	= Connecticut DOT.IDF	Asc/Rec limb fact	= 1/2



Hydrograph Report

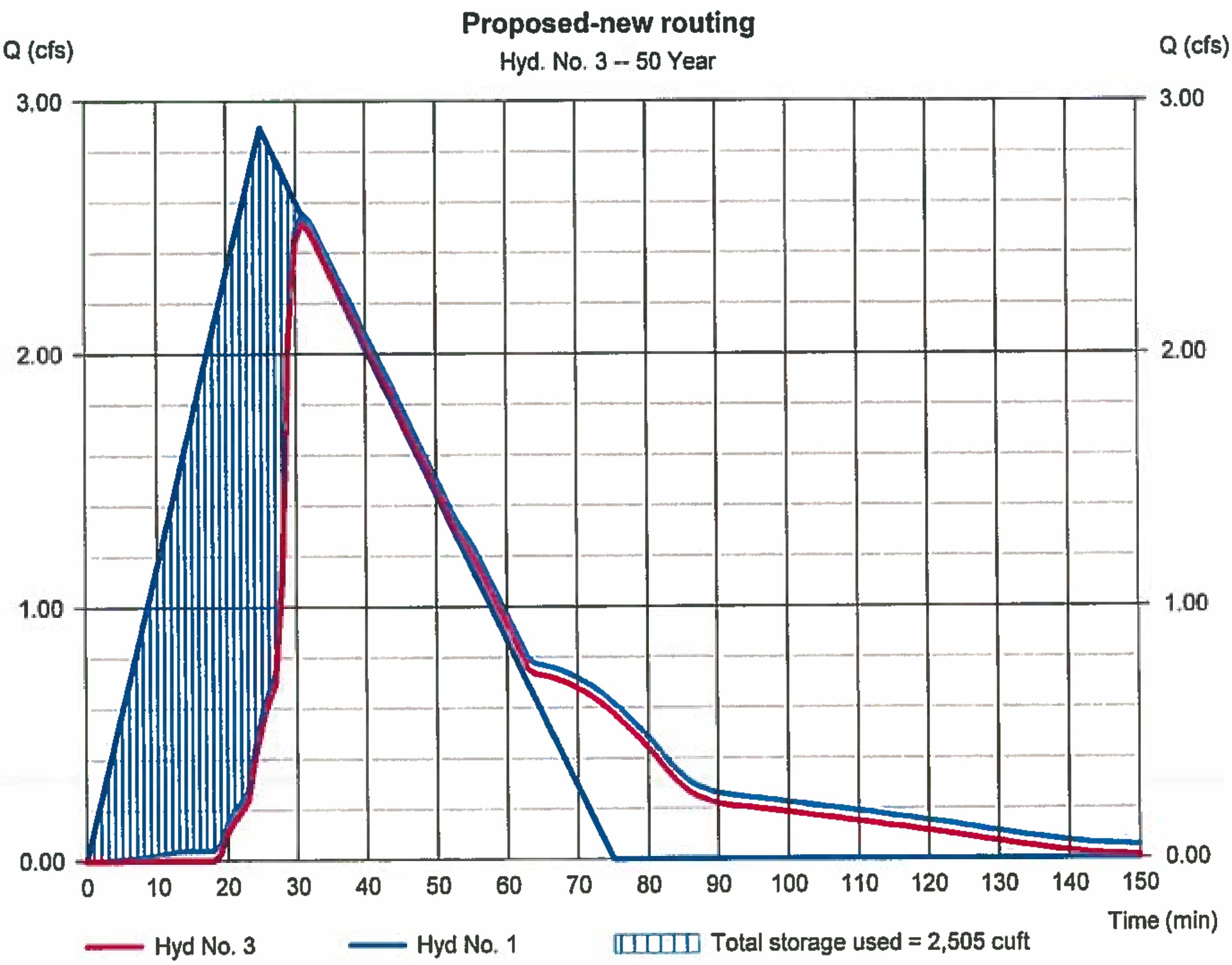
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 3

Proposed-new routing

Hydrograph type	= Reservoir	Peak discharge	= 2.516 cfs
Storm frequency	= 50 yrs	Time to peak	= 31 min
Time interval	= 1 min	Hyd. volume	= 4,981 cuft
Inflow hyd. No.	= 1 - proposed westmont	Max. Elevation	= 304.32 ft
Reservoir name	= Sitewide detention (all wetlan	Max. Storage	= 2,505 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	3.194	1	25	7,188	------	------	------	proposed westmont
2	Rational	2.895	1	23	5,992	------	------	------	existing westmont
3	Reservoir	2.890	1	29	5,653	1	304.35	2,522	Proposed-new routing

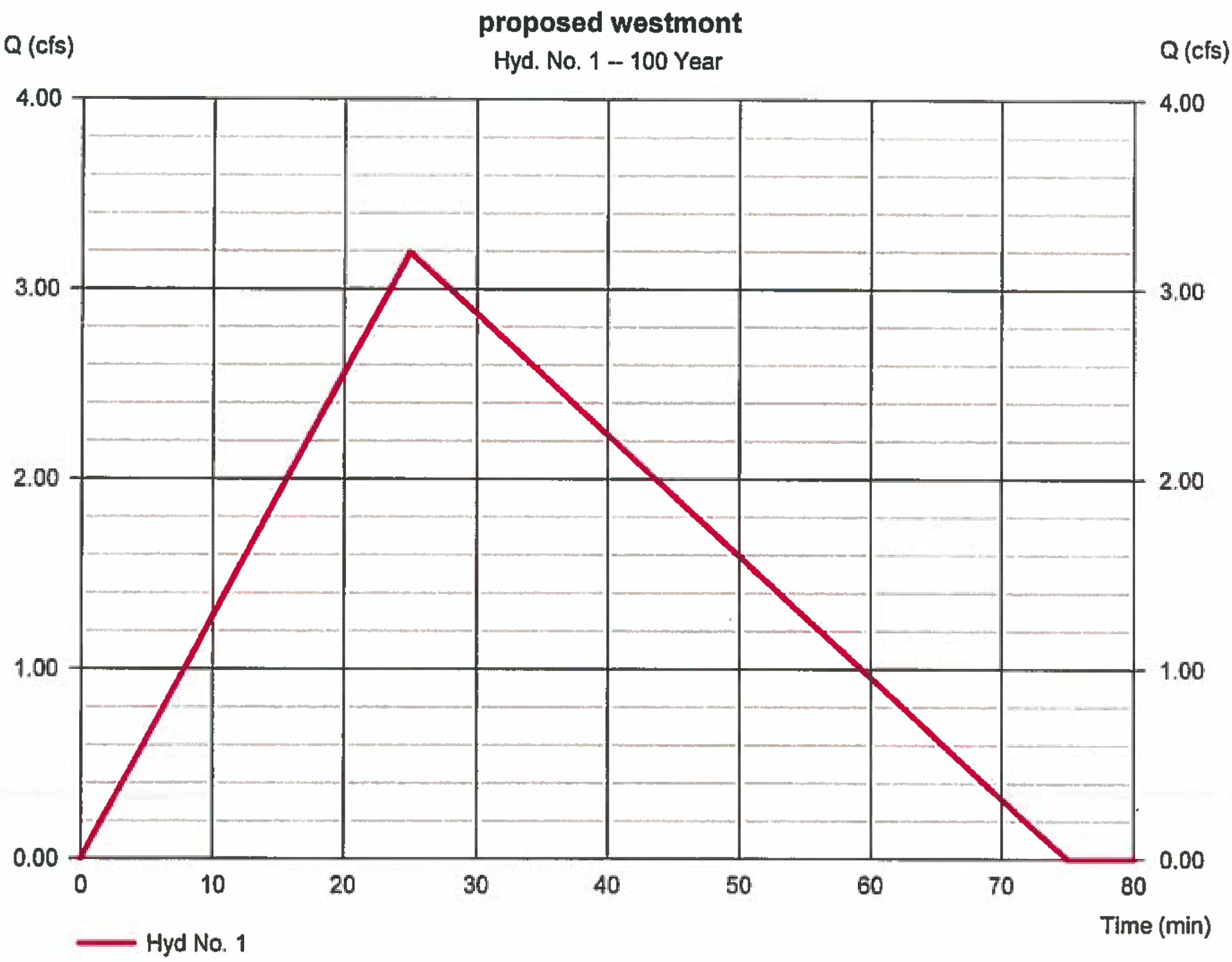
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 1

proposed westmont

Hydrograph type	= Rational	Peak discharge	= 3.194 cfs
Storm frequency	= 100 yrs	Time to peak	= 25 min
Time interval	= 1 min	Hyd. volume	= 7,188 cuft
Drainage area	= 3.080 ac	Runoff coeff.	= 0.23
Intensity	= 4.509 in/hr	Tc by User	= 25.00 min
IDF Curve	= Connecticut DOT.IDF	Asc/Rec limb fact	= 1/2



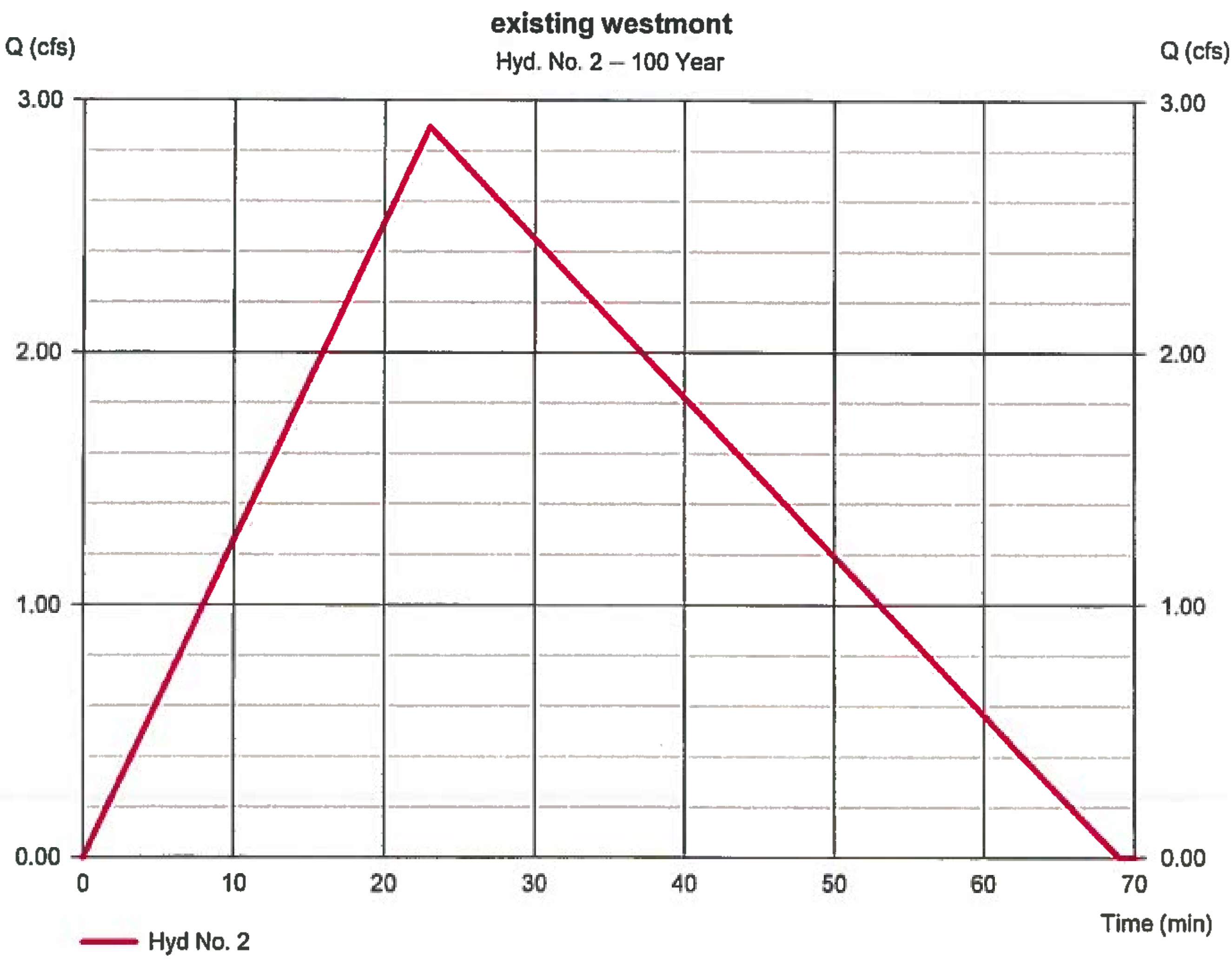
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Monday, 02 / 27 / 2017

Hyd. No. 2

existing westmont

Hydrograph type	= Rational	Peak discharge	= 2.895 cfs
Storm frequency	= 100 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 5,992 cuft
Drainage area	= 3.080 ac	Runoff coeff.	= 0.2
Intensity	= 4.699 in/hr	Tc by User	= 23.00 min
IDF Curve	= Connecticut DOT.IDF	Asc/Rec limb fact	= 1/2



Hydrograph Report

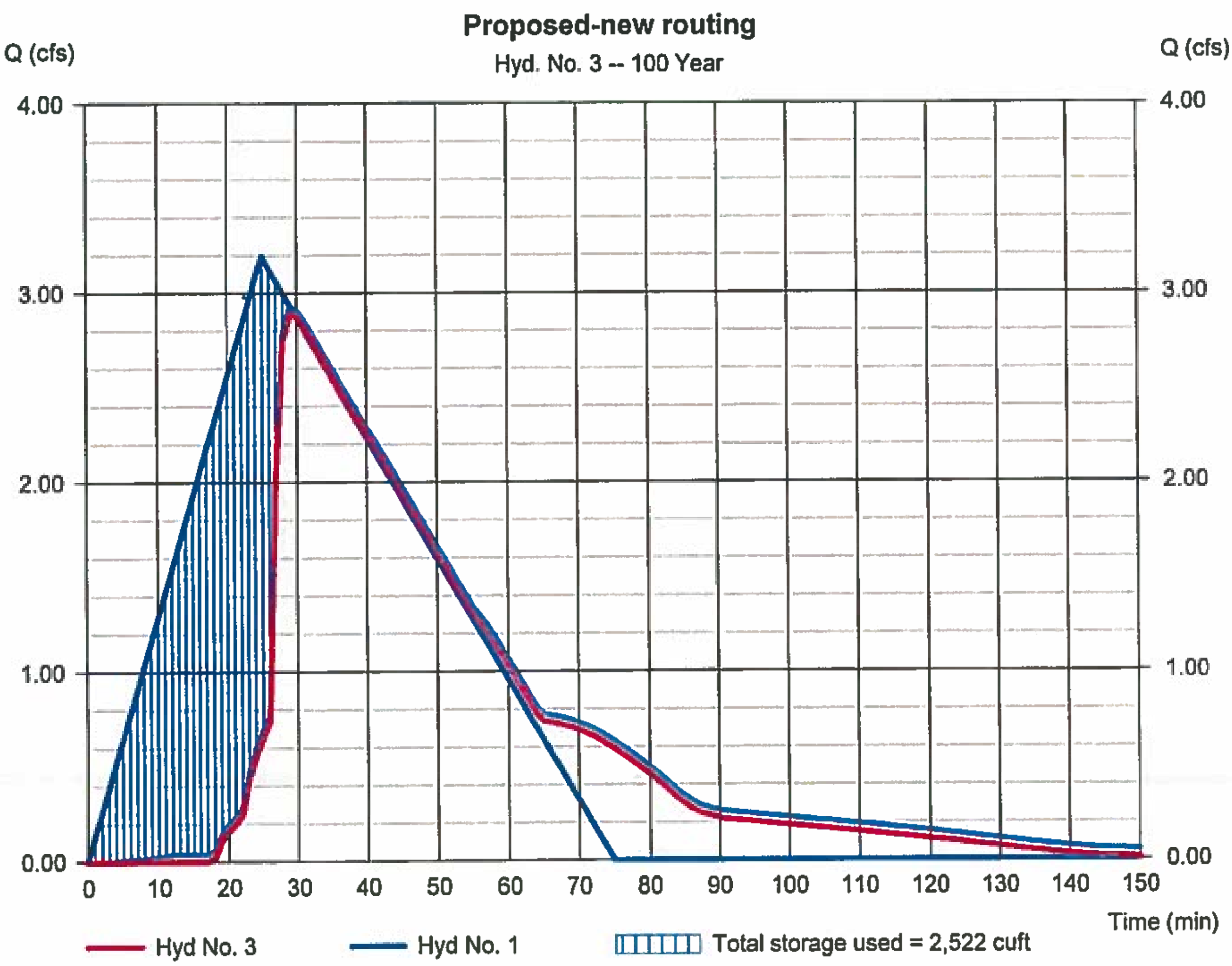
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 — Monday, 02 / 27 / 2017

Hyd. No. 3

Proposed-new routing

Hydrograph type	= Reservoir	Peak discharge	= 2.890 cfs
Storm frequency	= 100 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 5,653 cuft
Inflow hyd. No.	= 1 - proposed westmont	Max. Elevation	= 304.35 ft
Reservoir name	= Sitewide detention (all wetland areas)	Max. Storage	= 2,522 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	30.1225	6.6000	0.7676	--------
3	0.0000	0.0000	0.0000	--------
5	52.3308	9.8000	0.8367	--------
10	54.7383	10.8000	0.8016	--------
25	101.9813	15.8000	0.8971	--------
50	98.1551	15.7000	0.8577	--------
100	106.5909	17.0000	0.8462	--------

File name: Connecticut DOT.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	4.59	3.49	2.85	2.43	2.13	1.90	1.72	1.58	1.46	1.36	1.27	1.20
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	5.49	4.30	3.57	3.06	2.69	2.40	2.17	1.99	1.84	1.71	1.60	1.50
10	5.99	4.81	4.04	3.51	3.11	2.80	2.55	2.35	2.18	2.03	1.91	1.80
25	6.70	5.52	4.71	4.12	3.66	3.30	3.01	2.76	2.56	2.38	2.23	2.10
50	7.30	6.06	5.20	4.57	4.09	3.70	3.38	3.12	2.90	2.71	2.54	2.40
100	7.79	6.55	5.68	5.02	4.51	4.10	3.76	3.48	3.24	3.04	2.86	2.70

Tc = time in minutes. Values may exceed 60.

Precip. file name: Y:\2016\2016-0303-Westmont St West Hartford\ENG\Hydraflow\West Hartford.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.70	3.20	0.00	4.20	4.70	5.50	6.20	6.90
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Attachment D

Stormwater Calculations

188 Westmont Street
West Hartford, CT

Existing Drainage Areas

	Area (SF)	Area (Ac)	Percentage of Total Area (%)	C	Land Type Description
Impervious Area	7,671	0.18	5.7	0.9	Impervious
Wooded Area	117,757	2.70	87.9	0.15	Wooded area
Grassed Area	8,611	0.20	6.4	0.3	Grass area
Total Drainage Area	**134,039**	**3.08**	**100%**		

*Hydrologic Soil Group (HSG): C

Existing Conditions:
Composite C 0.20

Proposed Drainage Areas

Proposed CN Calculation:

	Area (SF)	Area (Ac)	Percentage of Total Area (%)	C	Land Type Description
Impervious Area	14,423	0.33	10.8%	0.9	Impervious
Wooded Area	105,106	2.41	78.4%	0.15	Wooded area
Grassed Area	14,511	0.33	10.8%	0.3	Grass area
Total Drainage Area	**134,040**	**3.08**	**100%**		

*Hydrologic Soil Group (HSG): C

Proposed Conditions:
Composite C 0.25

Water Quality Calculations:

I (Percent impervious cover)	10.8	
R (Volumetric runoff Coefficient)	0.147	
WQV (Water Quality Volume)	0.038	ac-ft
	1,644	ft3
	12,299	gals
GRV (Groundwater Recharge Volume)	0.003	ac-ft
	121	ft3
	902	gals

Project	WESTMONT ST	Checked DL	Date 6/2/2016
Location	W. Hartford, CT	Checked	Date

Circle One: Present Developed

Circle One: T_c T_t through subarea **TC1**

NOTE: Map showing flow segments is attached.

Sheet Flow

	Unit					
Segment ID		AB				
1. Surface description......................		wooded				
2. Manning's roughness coeff., n............		0.4	0			
3. Flow length, L (total L ≤ 200 ft)........	ft	200	0			
4. Two-yr 24-hr rainfall, P_2	in	3.3	3.3			
5. Land slope, s...........................	ft/ft	0.08	0.03			
6. $T_t = (0.007(nL)^{0.8})/(P_2^{0.5})(s^{0.4})$............	hr	0.35	+	0.00	=	0.35

Shallow Concentrated Flow

	Unit					
Segment ID		BC				
7. Surface description......................		wooded				
8. Flow length, L..........................	ft	365				
9. Watercourse slope, s.....................	ft/ft	0.128				
10. Average velocity, V.....................	ft/s	3				
11. $T_t = L/(3600V)$............................	hr	0.03	+	0.00	=	0.03

Channel Flow

	Unit					
Segment ID		DE				
12. Cross sectional flow area, a.............	ft^2					
13. Wetted perimeter, P_w	ft					
14. Hydraulic radius, $r = a/P_w$	ft					
15. Channel slope, s........................	ft/ft					
16. Manning's roughness coeff., n............						
17. $V = (1.49r^{2/3}s^{1/2})/n$........................	ft/s	4				
18. Flow length, L..........................	ft	0				
19. $T_t = L/(3600V)$............................	hr	0.00	+	0.00	=	0.00
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, and 19).....	hr					0.39
	T_c					~23 min.

SCS TR-55 Method

Calculated Land Slopes

AB	0.115
BC	0.139764706

Project	WESTMONT ST	Checked DL	Date 6/2/2016
Location	W. Hartford, CT	Checked	Date

Circle One: Present **Developed**

Circle One: T_c T_t through subarea — TC1 FOR WATERSHED

NOTE: Map showing flow segments is attached.

Sheet Flow

	Unit			
Segment ID		AB		
1. Surface description		wooded		
2. Manning's roughness coeff., n		0.4	0	
3. Flow length, L (total L ≤ 200 ft)	ft	200	0	
4. Two-yr 24-hr rainfall, P_2	in	3.3	3.3	
5. Land slope, s	ft/ft	0.08	0.03	
6. $T_t = (0.007(nL)^{0.8})/(P_2^{0.5})(s^{0.4})$	hr	0.35	+ 0.00	= 0.35

Shallow Concentrated Flow

	Unit			
Segment ID		BC	DE	
7. Surface description		wooded	STONE SWALE	
8. Flow length, L	ft	139	403	
9. Watercourse slope, s	ft/ft	0.109	0.074	
10. Average velocity, V	ft/s	3	2	
11. $T_t = L/(3600V)$	hr	0.01	+ 0.06	= 0.07

Channel Flow

	Unit			
Segment ID		DE		
12. Cross sectional flow area, a	ft^2			
13. Wetted perimeter, P_w	ft			
14. Hydraulic radius, $r = a/P_w$	ft			
15. Channel slope, s	ft/ft			
16. Manning's roughness coeff., n				
17. $V = (1.49r^{2/3}s^{1/2})/n$	ft/s	4		
18. Flow length, L	ft	0		
19. $T_t = L/(3600V)$	hr	0.00	+ 0.00	= 0.00
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, and 19)	hr			0.42
	T_c			~25 min.

SCS TR-55 Method

Calculated Land Slopes

AB	0.115
BC	0.139764706

Proposed house on Subdivided Lot
Westmont St
West Hartford, CT
Project No.:

Proposed Sub-Drainage Areas

Drainage Area	Storm Sewer Reference	Collection Type	Watershed	Area (SF)	Area (AC)	Imp Area (SF)	Imp Area (AC)	% Imp Proposed	RATIONAL METHOD Impervious Coefficient	RATIONAL METHOD Pervious Coefficient	RATIONAL METHOD Runoff Coefficient (c)	Time of Conc.
Area 1		Swale above wall	A	104982	2.4	10646	0.244	10.1%	0.90	0.17	0.24	24
Area 2		Swale above wall	A	17415	0.4	1500	0.034	8.6%	0.90	0.19	0.25	11
Area 3	24	Existing wetland	A	11571	0.3	2742	0.063	23.7%	0.90	0.15	0.33	8
			SUM	*1152583*	*3.08*	*14888*	*0.34*	11.1%				

Project	WESTMONT ST	Checked	DL	Date	6/10/2016
Location	W. Hartford, CT	Checked		Date	

Circle One: Present **Developed** (circled)

Circle One: T_c (circled) T_t through subarea **TC1** for SUBDRAIN AREA AREA NO. 1

NOTE: Map showing flow segments is attached.

Sheet Flow

		Segment ID	AB			
1.	Surface description		wooded			
2.	Manning's roughness coeff., n		0.4	0		
3.	Flow length, L (total L ≤ 200 ft)	ft	200	0		
4.	Two-yr 24-hr rainfall, P_2	in	3.3	3.3		
5.	Land slope, s	ft/ft	0.08	0.03		
6.	$T_t = (0.007(nL)^{0.8})/(P_2^{0.5})(s^{0.4})$	hr	0.35 +	0.00	=	0.35

Shallow Concentrated Flow

		Segment ID	BC	DE		
7.	Surface description		wooded	STONE SWALE		
8.	Flow length, L	ft	139	246		
9.	Watercourse slope, s	ft/ft	0.109	0.077		
10.	Average velocity, V	ft/s	3	2		
11.	$T_t = L/(3600V)$	hr	0.01 +	0.03	=	0.05

Channel Flow

		Segment ID	DE			
12.	Cross sectional flow area, a	ft^2				
13.	Wetted perimeter, P_w	ft				
14.	Hydraulic radius, $r = a/P_w$	ft				
15.	Channel slope, s	ft/ft				
16.	Manning's roughness coeff., n					
17.	$V = (1.49r^{2/3}s^{1/2})/n$	ft/s	4			
18.	Flow length, L	ft	0			
19.	$T_t = L/(3600V)$	hr	0.00 +	0.00	=	0.00
20.	Watershed or subarea T_c or T_t (add T_t in steps 6, 11, and 19)	hr				0.40
					T_c	~24 min.

SCS TR-55 Method

Calculated Land Slopes

AB	0.115
BC	0.139764706

Project	WESTMONT ST	Checked DL	Date 6/10/2016
Location	W. Hartford, CT	Checked	Date

Circle One: Present **Developed**

Circle One: T_c T_t through subarea **TC2** for SUBDRAIN AREA AREA NO. 2

NOTE: Map showing flow segments is attached.

Sheet Flow

		Segment ID	AB		
1.	Surface description		wooded		
2.	Manning's roughness coeff., n		0.4	0	
3.	Flow length, L (total L ≤ 200 ft)	ft	200	0	
4.	Two-yr 24-hr rainfall, P_2	in	3.3	3.3	
5.	Land slope, s	ft/ft	16	0.03	
6.	$T_t = (0.007(nL)^{0.8})/(P_2^{0.5})(s^{0.4})$	hr	0.04	+ 0.00	= 0.04

Shallow Concentrated Flow

		Segment ID	BC	DE	
7.	Surface description		wooded	STONE SWALE	
8.	Flow length, L	ft	78	141	
9.	Watercourse slope, s	ft/ft	0.109	0.17	
10.	Average velocity, V	ft/s	3	4	
11.	$T_t = L/(3600V)$	hr	0.13	+ 0.01	= 0.14

Channel Flow

		Segment ID	DE		
12.	Cross sectional flow area, a	ft^2			
13.	Wetted perimeter, P_w	ft			
14.	Hydraulic radius, $r = a/P_w$	ft			
15.	Channel slope, s	ft/ft			
16.	Manning's roughness coeff., n				
17.	$V = (1.49r^{2/3}s^{1/2})/n$	ft/s	4		
18.	Flow length, L	ft	0		
19.	$T_t = L/(3600V)$	hr	0.00	+ 0.00	= 0.00
20.	Watershed or subarea T_c or T_t (add T_t in steps 6, 11, and 19)	hr			0.18
		T_c			~11 min.

SCS TR-55 Method

Calculated Land Slopes

AB	0.115
BC	0.139764706

Project	WESTMONT ST	Checked	DL	Date	6/10/2016
Location	W. Hartford, CT	Checked		Date	

Circle One: Present **Developed**

Circle One: **T_c** T_t through subarea TC3 for SUBDRAIN AREA AREA NO. 3

NOTE: Map showing flow segments is attached.

Sheet Flow

		Unit			
	Segment ID		AB		
1.	Surface description		wooded		
2.	Manning's roughness coeff., n		0.011	0	
3.	Flow length, L (total L ≤ 200 ft)	ft	20	0	
4.	Two-yr 24-hr rainfall, P_2	in	3.3	3.3	
5.	Land slope, s	ft/ft	0.1	0.03	
6.	$T_t = (0.007(nL)^{0.8})/(P_2^{0.5})(s^{0.4})$	hr	0.00 +	0.00 =	0.00

Shallow Concentrated Flow

		Unit			
	Segment ID		BC	DE	
7.	Surface description		grass	STONE SWALE	
8.	Flow length, L	ft	161	0	
9.	Watercourse slope, s	ft/ft	0.068	0.17	
10.	Average velocity, V	ft/s	3	4	
11.	$T_t = L/(3600V)$	hr	0.13 +	0.00 =	0.13

Channel Flow

		Unit			
	Segment ID		DE		
12.	Cross sectional flow area, a	ft^2			
13.	Wetted perimeter, P_w	ft			
14.	Hydraulic radius, $r = a/P_w$	ft			
15.	Channel slope, s	ft/ft			
16.	Manning's roughness coeff., n				
17.	$V = (1.49r^{2/3}s^{1/2})/n$	ft/s	4		
18.	Flow length, L	ft	0		
19.	$T_t = L/(3600V)$	hr	0.00 +	0.00 =	0.00
20.	Watershed or subarea T_c or T_t (add T_t in steps 6, 11, and 19)	hr			0.13
		T_c			~8 min.

SCS TR-55 Method

Calculated Land Slopes

AB	0.115
BC	0.139764706

Catherine Dorau

From: Todd Dumais
Sent: Friday, May 19, 2017 3:54 PM
To: 'Darin Lemire'; 'leoneconstruction@gmail.com'
Cc: Catherine Dorau; 'REMA8@aol.com'; Duane Martin; Ray Gradwell
Subject: RE: 178 Westmont - Supplemental Information - Planning Division Comments

Darin,
Was Sheet EX-1 amended and resent? If not, the following previously issued comments still stand:

a. More clearly depict and label both the existing and proposed wetlands boundaries on all sheets.
b. More clearly depict and label the proposed 150' upland review area boundary on all sheets. On only the Wetlands Map Amendment sheet, more clearly depict and label the existing 150' upland review area boundary.
c. A more readable colorized version of the Wetlands Map Amendment may allow for the best graphical depiction of the above noted comments.
d. Please provide a chart on the Wetlands Map Amendment that summarizes the total square footage/acreage of the following:
    1. Existing and proposed wetlands area in s.f.
    2. Existing and proposed watercourse areas in s.f.
    3. Existing and proposed 150' upland review area in s.f.

Your map does not depict any information on the existing wetlands boundaries only the proposed boundaries. Both should be shown for comparison purposes. Also please clarify if the answer 1.e. contained in your memo applies to the proposed wetlands subject to the map amendment or the proposed wetlands subject to the proposed mitigation. There are in fact two diffent wetlands amendment being requested as part of this applciaiton.

Todd Dumais
Town Planner
Town of West Hartford
Department of Community Development : Planning & Zoning Division
50 South Main Street | West Hartford CT 06107 | t 860.561.7556 | f 860.561.7504

From: Darin Lemire [mailto:dlemire@freemancos.com]
Sent: Friday, May 19, 2017 3:35 PM
To: Todd Dumais <Todd.Dumais@WestHartfordCT.gov>; 'leoneconstruction@gmail.com'
Cc: Catherine Dorau <cdorau@WestHartfordCT.gov>; 'REMA8@aol.com' <REMA8@aol.com>; Duane Martin <DuaneM@WestHartfordCT.gov>; Ray Gradwell <rgradwell@freemancos.com>
Subject: RE: 178 Westmont - Supplemental Information - Planning Division Comments

Hi Todd,

Attached are our responses to your comments. There is a letter response, building sketch, and revised Grading & Drainage Plan.
We wanted to get these over to you quickly so there is sufficient time for the town to review.

Thank you,
Darin

Darin Lemire, P.E.
Project Manager
FREEMAN COMPANIES, LLC
36 John Street, Hartford, CT 06106
P 860-251-9550 Ext 1020 | Direct 860-929-9199
dlemire@freemancos.com www.freemancos.com

From: Todd Dumais [mailto:Todd.Dumais@WestHartfordCT.gov]
Sent: Wednesday, May 17, 2017 10:36 AM
To: 'leoneconstruction@gmail.com'
Cc: Catherine Dorau <cdorau@WestHartfordCT.gov>; 'REMA8@aol.com' <REMA8@aol.com>; Darin Lemire <dlemire@freemancos.com>; Duane Martin <DuaneM@WestHartfordCT.gov>
Subject: 178 Westmont - Supplemental Information - Planning Division Comments

Good Morning Sal,

In response to your revised plan submittal on May 1st, the Planning Division offers the following comments for your consideration:

1. Previous Planning Comment: To facilitate the IWW Map Amendment review, the following items should be addressed or clarified:

   a. Wetland Map Amendment Plan shall be relabeled. Suggested plan title: Wetland Map Amendment
   b. More clearly depict and label the both the existing and proposed wetlands boundaries on all sheets.
   c. More clearly depict and label the proposed 150' upland review area boundary on all sheets. On only the Wetlands Map Amendment sheet, more clearly depict and label the existing 150' upland review area boundary.
   d. A more readable colorized version of the Wetlands Map Amendment may allow for the best graphical depiction of the above noted comments.
   e. Please provide a chart on the Wetlands Map Amendment that summarizes the total square footage/acreage of the following:
      1. Existing and proposed wetlands area in s.f.
      2. Existing and proposed watercourse areas in s.f.
      3. Existing and proposed 150' upland review area in s.f.
2. Previous Planning Comment: To facilitate the IWW Regulated Activity, the following items should be addressed or clarified:
   a. The limits of total site disturbance have now been depicted and updated on sheets C-1 and EC-1. For clarification purposes, staff notes that the proposed area of disturbance in virtually the entire site.
   b. The plans have been updated to provide information regarding tree removal. However, the update is difficult to read and additional information should be provided in a table form that includes the size and type of trees to be removed and those to be preserved. Please also clarify the standard for which trees were identified (i.e. above what size caliper/diameter were tree included on the plan).
3. Previous Engineering Comment: A request was made to detriment if soil boring or tests were performed to establish the water table elevation and/or presence / depth of rock below the surface. The answer provided in the May 1st Memo from Darin Lemire, PE, specifically sates that "*Although deep soil test pits were not conducted at the site, it is unlikely that bedrock would be encountered to at least 65 inches from the ground surface.*" What is the basis for this statement? The provided information indicates that hand soil test holes were dug only to a maximum depth of 30 inches and the plans, show areas of proposed excavation of greater than 65 inches, in fact closer to 120 inches for the wall and possibly an even greater amount for the foundation of the house.
4. also includes the volume of cut for the foundation of the home itself. If not, please provide the additional information.
5. Previous Engineering Comment: A request was made to provide a calculation of the volume of cut materials that will be removed from the site. Please clarify if the answer provided in the May 1st Memo from Darin

Lemire, PE, also includes the volume of cut for the foundation of the home itself. If not, please provide the additional information.

6. **Previous Planning Comment**: Building height calculation for the proposed house has yet to be submitted. (Note a proper height calculation methodology was previously forwarded in a 2.23.17 email)
7. **General Comment**: Please update the plan to include the finished basement floor elevation for the proposed home.

All of the above-listed comments should be addressed by way of a modified plan set and/or narrative response submission no later than Wednesday, May 31st.

If you have any questions about the above comments, please do not hesitate to contact me.

Todd Dumais
Town Planner
Town of West Hartford
Department of Community Development : Planning & Zoning Division
50 South Main Street | West Hartford CT 06107 | t 860.561.7556 | f 860.561.7504

Date: May 19, 2017

To: Todd Dumais,Town Planner
Town of West Hartford
Department of Community Development: Planning and Zoning Division
50 South Main Street
West Hartford, CT 06107

Subject: Response to Comments
178 Westmont
Inland Wetlands and Watercourses Application No. 1063
West Hartford, Connecticut

Dear Mr. Dumais:

Freeman has reviewed the comments from Planning and Zone Staff and Town Engineering based on our revised plan submittal on May 1st. Freeman offers the following formal responses ***(in bold italics)***:

1. Previous Planning Comment: To facilitate the IWW Map Amendment review, the following items should be addressed or clarified:

a. Wetland Map Amendment Plan shall be relabeled. Suggested plan title: Wetland Map Amendment. ***The map has already been retitle per this request. See sheet EX-1, Wetland Map Amendment.***

b. More clearly depict and label the both the existing and proposed wetlands boundaries on all sheets. ***The wetland boundaries are identified on EX-1, L-1, C-1, and EC-1. See EX-1 for line type and symbol.***

c. More clearly depict and label the proposed 150' upland review area boundary on all sheets. On only the Wetlands Map Amendment sheet, more clearly depict and label the existing 150' upland review area boundary. ***The 150' upland review area boundary is shown on EX-1, C-1, and EC-1 with a label to that line on each of those sheets.***

d. A more readable colorized version of the Wetlands Map Amendment may allow for the best graphical depiction of the above noted comments. ***As noted.***

e. Please provide a chart on the Wetlands Map Amendment that summarizes the total square footage/acreage of the following:

1. Existing and proposed wetlands area in s.f. ***See sheet EX-1 dated 2/17/2017 and revised to 5/1/2017, wetland and watercourse and upland review area summary table for area of wetland affected (existing) and created (proposed). The total area of the wetlands on site today is 3,197 sf.***

2. Existing and proposed watercourse areas in s.f. ***See sheet EX-1, dated 2/17/2017 and revised to 5/1/2017 wetland and watercourse and upland review area summary table for length of watercourse affected (existing) and created (proposed). The total length of the watercourses on site today is 435 lf.***

3. Existing and proposed 150' upland review area in s.f. ***See sheet EX-1 dated 2/17/2017 and revised to 5/1/2017, wetland and watercourse and upland review area summary table for the upland review area existing and proposed on site.***

2. Previous Planning Comment: To facilitate the IWW Regulated Activity, the following items should be addressed or clarified:

a. The limits of total site disturbance have now been depicted and updated on sheets C-1 and EC-1. For clarification purposes, staff notes that the proposed area of disturbance in virtually the entire site. ***As noted.***

b. The plans have been updated to provide information regarding tree removal. However, the update is difficult to read and additional information should be provided in a table form that includes the size and type of trees to be removed and those to be preserved. Please also clarify the standard for which trees were identified (i.e. above what size caliper/diameter were tree included on the plan). ***A table of existing trees and trees to be removed was prepared. Trees over 12" DBH were included on the plan (see sheets C-1 and EC-1) and are shown on this table.***

Tree Description	Existing	To Be Removed
12" Evergreen	1	1
14" Hickory	2	0
18" Locust	2	1
12" Locust	1	1
24" Maple	12	7
18" Maple	11	9
14" Maple	4	1
12" Maple	12	11
Total	45	31

3. Previous Engineering Comment: A request was made to detriment if soil boring or tests were performed to establish the water table elevation and/or presence / depth of rock below the surface. The answer provided in the May 1st Memo from Darin Lemire, PE, specifically sates that "Although deep soil test pits were not conducted at the site, it is unlikely that bedrock would be encountered to at least 65 inches from the ground surface." What is the basis for this statement? The provided information indicates that hand soil test holes were dug only to a maximum depth of 30 inches and the plans, show areas of proposed excavation of greater than 65 inches, in fact closer to 120 inches for the wall and possibly an even greater amount for the foundation of the house. ***The basis of this statement is the USDA Soil Survey data.***

4. also includes the volume of cut for the foundation of the home itself. If not, please provide the additional information. ***The volumes stated include the volume of the foundation and basement.***

5. Previous Engineering Comment: A request was made to provide a calculation of the volume of cut materials that will be removed from the site. Please clarify if the answer provided in the May 1st Memo from Darin Lemire, PE, also includes the volume of cut for the foundation of the home itself. If not, please provide the additional information. ***The volumes stated include the volume of the foundation and basement.***

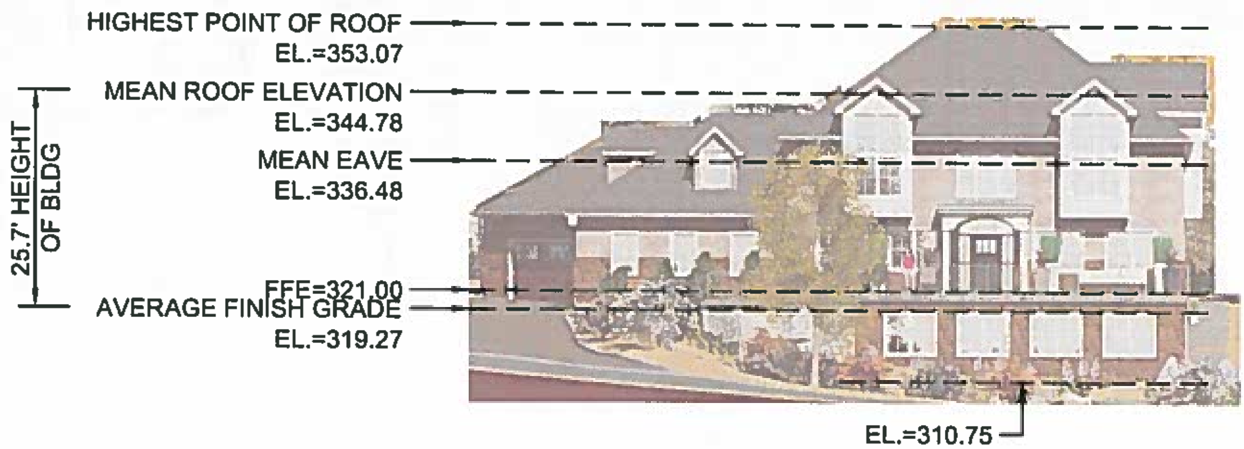
6. Previous Planning Comment: Building height calculation for the proposed house has yet to be submitted. (Note a proper height calculation methodology was previously forwarded in a 2.23.17 email). ***See attached building height calculation. The Grading and Drainage drawing was revised at northeast building corner to show the revised spot grade 310.75' and zoning table was revised for building height.***

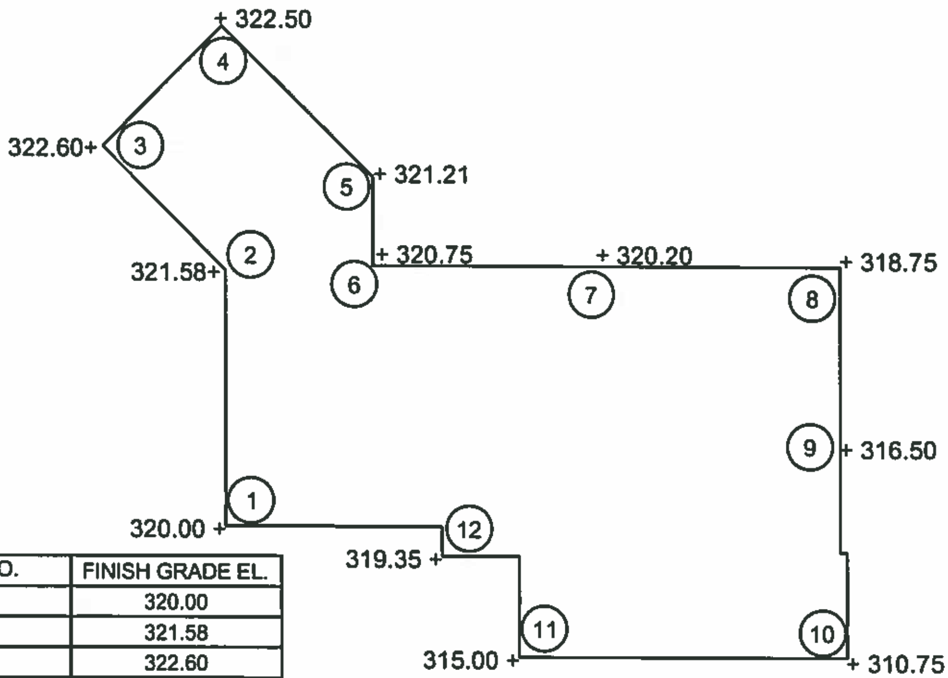
7. General Comment: Please update the plan to include the finished basement floor elevation for the proposed home.
The basement floor will be 10 feet 3 inches lower than the 1st floor finished floor elevation (FFE).

Please feel free to contact Darin Lemire or me at 860-251-9550 to discuss these any further if needed.

Sincerely,
FREEMAN COMPANIES, LLC

Ray Gradwell, P.E., P.M.P.
Director of Operations





POINT NO.	FINISH GRADE EL.
1	320.00
2	321.58
3	322.60
4	322.50
5	321.21
6	320.75
7	320.20
8	318.75
9	316.50
10	310.75
11	315.00
12	319.35
FINISH AVERAGE GRADE	319.10

FREEMAN COMPANIES
LAND DEVELOPMENT | ENGINEERING DESIGN | CONSTRUCTION SERVICES
36 JOHN STREET
HARTFORD, CT 06106
WWW.FREEMANCOS.COM
TEL:(860)251-9550
FAX:(860)986-7161
ELEVATE YOUR EXPECTATIONS

BUILDING HEIGHT SKETCH

178 WESTMONT
WEST HARTFORD, CT

DRAFTED:	M.K.
CHECKED:	D.L.
APPROVED:	D.L.
SCALED:	N.T.S.
PROJECT NO.:	2016-0303
DATE:	05/19/2017

SHEET NO.

FIGURE 1

Todd Dumais

From: Todd Dumais
Sent: Wednesday, May 17, 2017 10:36 AM
To: 'leoneconstruction@gmail.com'
Cc: Catherine Dorau; 'REMA8@aol.com'; 'dlemire@freemancos.com'; Duane Martin
Subject: 178 Westmont - Supplemental Information - Planning Division Comments

Good Morning Sal,

In response to your revised plan submittal on May 1st, the Planning Division offers the following comments for your consideration:

1. **Previous Planning Comment**: To facilitate the IWW Map Amendment review, the following items should be addressed or clarified:

   a. Wetland Map Amendment Plan shall be relabeled. Suggested plan title: Wetland Map Amendment
   b. More clearly depict and label the both the existing and proposed wetlands boundaries on all sheets.
   c. More clearly depict and label the proposed 150' upland review area boundary on all sheets. On only the Wetlands Map Amendment sheet, more clearly depict and label the existing 150' upland review area boundary.
   d. A more readable colorized version of the Wetlands Map Amendment may allow for the best graphical depiction of the above noted comments.
   e. Please provide a chart on the Wetlands Map Amendment that summarizes the total square footage/acreage of the following:
      1. Existing and proposed wetlands area in s.f.
      2. Existing and proposed watercourse areas in s.f.
      3. Existing and proposed 150' upland review area in s.f.
2. **Previous Planning Comment:** To facilitate the IWW Regulated Activity, the following items should be addressed or clarified:
   a. The limits of total site disturbance have now been depicted and updated on sheets C-1 and EC-1. For clarification purposes, staff notes that the proposed area of disturbance in virtually the entire site.
   b. The plans have been updated to provide information regarding tree removal. However, the update is difficult to read and additional information should be provided in a table form that includes the size and type of trees to be removed and those to be preserved. Please also clarify the standard for which trees were identified (i.e. above what size caliper/diameter were tree included on the plan).
3. **Previous Engineering Comment**: A request was made to detriment if soil boring or tests were performed to establish the water table elevation and/or presence / depth of rock below the surface. The answer provided in the May 1st Memo from Darin Lemire, PE, specifically sates that *"Although deep soil test pits were not conducted at the site, it is unlikely that bedrock would be encountered to at least 65 inches from the ground surface."* What is the basis for this statement? The provided information indicates that hand soil test holes were dug only to a maximum depth of 30 inches and the plans, show areas of proposed excavation of greater than 65 inches, in fact closer to 120 inches for the wall and possibly an even greater amount for the foundation of the house.
4. also includes the volume of cut for the foundation of the home itself. If not, please provide the additional information.
5. **Previous Engineering Comment**: A request was made to provide a calculation of the volume of cut materials that will be removed from the site. Please clarify if the answer provided in the May 1st Memo from Darin Lemire, PE, also includes the volume of cut for the foundation of the home itself. If not, please provide the additional information.

6. **Previous Planning Comment**: Building height calculation for the proposed house has yet to be submitted. (Note a proper height calculation methodology was previously forwarded in a 2.23.17 email)
7. **General Comment**: Please update the plan to include the finished basement floor elevation for the proposed home.

All of the above-listed comments should be addressed by way of a modified plan set and/or narrative response submission no later than Wednesday, May 31st.

If you have any questions about the above comments, please do not hesitate to contact me.

Todd Dumais
Town Planner
Town of West Hartford
Department of Community Development : Planning & Zoning Division
50 South Main Street | West Hartford CT 06107 | t 860.561.7556 | f 860.561.7504

FREEMAN COMPANIES

RECEIVED
MAY - 1 2017
PLANNING & ZONING DIVISION
Town of West Hartford, CT

LAND DEVELOPMENT
ENGINEERING DESIGN
CONSTRUCTION SERVICES

Date: May 1, 2017

To: Todd Dumais
Town Planner
Town of West Hartford
Department of Community Development: Planning and Zoning Division
50 South Main Street
West Hartford, CT 06107

From: Darin Lemire, PE
Freeman Companies, LLC

Subject: Response to Comments
178 Westmont
Inland Wetlands and Watercourses Application No. 1063
West Hartford, Connecticut

Dear Mr. Dumais:

Freeman has reviewed the comments from Planning and Zone Staff and Town Engineering. Freeman offers the following formal responses:

Town Engineering Comments

Comment #1:
There is a significant amount of regarding (elevation cutting) on the site to accommodate the house, wetland mitigation areas, retaining walls, and drainage swales. Please provide a calculation of the volume of cut material that will be removed from the site.

Response: A volume of earthwork was calculated by Leone Construction and is below:

Wall cut negative - 19910 cu ft
Yard cut negative- 2967 cu ft
Mitigation swale
And areas ABC. - 2859 cu ft
Driveway and walkway
Fill positive. 9218 cu ft

Comment #2:
The proposed retaining wall ranges in height from 4 feet to over 10 feet. Provide a detail for the proposed wall construction. Also, will measures be incorporated with the proposed retaining wall to protect from a fall?

Response: A detail was provided on new detail sheet, C-4. The sheet shows the wall and the chain link fence along top of wall.

Comment #3:
Given the amount of site disturbance, a single row of silt fence may not be sufficient along the edge of the roadway. The Wetlands Assessment recommends Silt Socks, but they are not shown on the plans.

Response: The Sediment and Erosion Control Plan was revised to show Silt Socks.

Comment #4:
How will the proposed house be served with utilities (sewer, water, gas, electric, cable, and telephone)?

Response: The house will use oil for heat and hot water. The other utilities are shown on sheet C-1.

Comment #5:
Provide a detail for asphalt curbing and roadway trench restoration. The Town will requires 9 inches of compacted processed aggregate base under 4 inches of compacted Superpave 0.375 asphalt. The trench will require one foot cutbacks beyond the limits of drainage or utility trench with sealing of the pavement joints.

Response: A detail was provided on new sheet, C-4.

Comment #6:
Were soil borings performed on the site to determine the water table elevation or the presence/depth of rock below the surface given the proposed depth of cut?

Response: Soil borings, or soil test holes, were performed throughout the site in January 2016 during the delineation of regulated wetlands and watercourses. Test holes were advanced to approximately 24 to 30 inches using a soil auger. Refusal due to bedrock was not encountered.

The two upland soil types classified at the site, based on in-field observations, were the moderately well drained Ludlow (40) silt loam and the Wethersfield (88) loam. The latter soil series is consistent with the soil survey mapping for this area (see also the REMA On-Site Soil Investigation & Wetland Delineation Report, dated 2/16/17).

Both of the aforementioned soils series are formed in lodgment till, and are deep to very deep to bedrock. They are also deep to moderately deep to a densic contact, which is what typically holds a perched water table above a bedrock related water table.

Even the wetland-type soils, that is, the Wilbraham and Menlo (6) silt loams consist of deep soils formed in lodgment till with a densic contact (i.e. compact till layer; Cd horizon).

Therefore, the water table within the site's upland soils would vary from 24 to 36 inches during the seasonal high at the early portion of the growing season, but be at the surface within the delineated wetland areas during the same time. However, since the soils are derived from lodgment till and have fine textures, the volume of water that would be encountered during excavation would be relatively low, and easily managed.

Although deep soil test pits were not conducted at the site, it is unlikely that bedrock would be encountered to at least 65 inches from the ground surface.

Comment #7:
This application proposes a significant amount of disturbance of this site, including areas of existing wetlands. This disturbance includes the redirection of some of the site's drainage flow from the northwest corner in a counter clockwise direction to the southeast corner. Alternative site layouts would provide far less site disturbance and alteration of the existing drainage pattern.

Response: We do not agree with the Town Engineer's assessment that drainage patterns at the site are unduly altered. The surface drainage patterns that exist at the subject site have been preserved. The intermittent watercourse that enters at the northwestern section of the site would be directed via a new watercourse channel to the same point of discharge as under existing conditions, that is, to Wetland C at the topographically lower northeastern section of the site. This watercourse will also provide hydrology for Wetland Mitigation Area C, very much in the same way as it provides hydrology for Wetland B, under existing conditions.

The southeasterly flow of surface water will mirror existing flow patterns and end up discharging to Wetland C, as under existing conditions, via Wetland Mitigation Areas A and B. Therefore, the hydrology of Wetland C, which depends on both the intermittent watercourse, that enters the site from an off-site wetland, and from surface flows and seasonal groundwater discharge associated with the central and southern portions of the site, will be maintained and enhanced.

PZ Town Staff Comments

Comment #1a:
Wetland Map Amendment Plan shall be relabeled. Suggested plan title: Wetland Map Amendment

Response: Plan title was revised.

Comment #1b:
More clearly depict and label the both the existing and proposed wetlands boundaries on all sheets.

Response: Drawings were revised to be more clearly show wetlands.

Comment #1c:
More clearly depict and label the proposed 150' upland review area boundary on all sheets. On only the Wetlands Map Amendment sheet, more clearly depict and label the existing 150' upland review area boundary.

Response: The drawings were revised to show the existing and proposed 150 foot upland review areas.

Comment #1d:
More clearly depict and label the existing watercourse on all sheets.

Response: Drawings were revised to be more clearly show watercourse.

Comment #1e:
A colorized version of the Wetlands Map Amendment may allow for the best graphical depiction of the above noted comments.

Response: With the revisions made, the drawing shows the site conditions better.

Comment #1f:
Please provide a chart on the Wetlands Map Amendment that summarizes the total square footage/acreage of the following:

1. Existing and proposed wetlands area in s.f.
2. Existing and proposed watercourse area in s.f.
3. Existing and proposed 150' upland review area in s.f.

Response: The plan was updated to show this information.

Comment #1g:
Reference to that names and addresses of all abutting property owners shall be provided on the plan. Abutters include property / property owners across Westmont.

Response: Plan was revised to show this.

Comment #2a:
The limits of total site disturbance shall be depicted on sheets C-1 and EC-1.

Response: The plans were updated to show this.

Comment #2b:
The wetlands Mitigation Plan does not depict the S&E Controls described in the Mitigation plan notes.

Response: The mitigation plan was revised to be consistent.

Comment #2c:
The plans do not provide sufficient information regarding tree removal. A plan identifying trees to remain / be removed shall be included with (type and size of trees noted.)

Response: As shown in the legend on the Grading and Drainage Plan, the trees to be removed are marked with "X". The size of the existing trees are shown on this plan. The size of the proposed trees is shown on C-2.

Comment #2d:
Since a significant amount of activity is proposed within and proximate to regulated wetlands and watercourses, the application should include a detailed discussion about what, if any, Feasible and Prudent Alternatives, were considered in the process of developing the submitted plans. Staff notes that there is one footnote regarding Feasible and Prudent alternative mentioned in the Wetlands Assessment, (that being the existing wetlands approval for construction of a home onsite) but no other discussion or examination of those alternatives is provided.

Response: This will be provided separately by the Wetlands Scientist..

Comment #3:
General comment: Please remove the Subdivision (TPZ Commission) signature blocks from all sheets.

Response: The blocks were removed.

Comment #4:
General comment: Please provide a building height calculation for the proposed house. (Note a proper height calculation methodology was previously forwarded in a 2.23.17 email)

Response: The calculation was performed according methodology provided. Actual calculation will be provided.

TOWN OF WEST HARTFORD

MEMORANDUM

TO: Todd Dumais, Town Planner

FROM: DJM Duane J. Martin, P.E., Town Engineer

RE: 178 Westmont, Inland Wetlands and Watercourses Application No. 1063

DATE: May 12, 2017

The Engineering Division reviewed the Inland Wetlands and Watercourses Application for 178 Westmont dated May 1, 2017 and offers the following comments.

1. The net difference between proposed cutting and filling is 16,518 cubic feet or 612 cubic yards. This means there will be approximately 60 full dump trucks removing earthen material from this property.

2. The previous engineering comment (number 7) still remains. I agree with the applicant's response that the point of origin and destination for the site water flow is similar for the existing pattern compared to the proposed pattern. However, the proposed location of the house necessitates the interim redirection of site water flow between origin and destination. I was merely commenting that there may be other feasible and prudent alternatives by repositioning a house on this property.

Todd Dumais

From:	REMA8@aol.com
Sent:	Monday, May 01, 2017 4:17 PM
To:	Todd Dumais; dlemire@freemancos.com; leoneconstruction@gmail.com
Cc:	Catherine Dorau; rgradwell@freemancos.com
Subject:	Re: drawings

Todd:

Back at the office. That is correct, with the exception that during the public hearing I will likely explain in more detail botn the feasible and the prudent of the "feasible and prudent" alternatives test. The commission is likely quite familiar with the statute and the interpretation, but I must put that on the record.

Best,
George

In a message dated 5/1/2017 1:59:38 P.M. Eastern Daylight Time, Todd.Dumais@WestHartfordCT.gov writes:

> George,
>
> Thank you for sending. Just want to confirm, that this is your response (coupled with the revised plan submitted today), to my alternatives question?
>
> Todd Dumais
>
> Town Planner
> Town of West Hartford
> Department of Community Development : Planning & Zoning Division
>
> 50 South Main Street | West Hartford CT 06107 | t 860.561.7556 | f 860.561.7504
>
> ---
>
> **From:** REMA8@aol.com [mailto:REMA8@aol.com]
> **Sent:** Monday, May 01, 2017 1:46 PM
> **To:** Todd Dumais <Todd.Dumais@WestHartfordCT.gov>; dlemire@freemancos.com; leoneconstruction@gmail.com
> **Cc:** Catherine Dorau <cdorau@WestHartfordCT.gov>; rgradwell@freemancos.com
> **Subject:** Re: drawings
>
> Todd:

The colorized alternative that was submitted was not actually ready for submittal until tonight. I was going to provide annotations and a narrative to go with it. The essentials of that alternative are as follows:

1. Filling/disturbance of all of the wetlands and intermittent watercourses at the site, through expansion of the retaining wall southerly and northerly. This would provide for more useable yard, lawn, and landscaped areas.

2. The intermittent watercourse entering the site would be piped through directly to the lower wetland which would be cleared and regraded as a detention basin (water quantity/water quality control).

3. Drainage and groundwater above (westerly) of the retaining wall would be captured and piped directly to a small created depressional area as shown in the proposed plan.

4. All wetland mitigation areas (A, B, and C) are eliminated. Re-creation of intermittent stream channels is not considered with this alternative. The detention basin areas could support some wetland vegetation and be planted.

Best,

George Logan

In a message dated 5/1/2017 12:59:04 P.M. Eastern Daylight Time, Todd.Dumais@WestHartfordCT.gov writes:

> Darin,
>
> Thank you for sending.
>
> Todd Dumais
>
> Town Planner
> Town of West Hartford
> Department of Community Development : Planning & Zoning Division
>
> 50 South Main Street | West Hartford CT 06107 | t 860.561.7556 | f 860.561.7504
>
> ---

REMA

• Soil & Wetland Studies
• Ecology • Application Reviews
• Listed Species Surveys • GPS
• Environmental Planning & Management
• Ecological Restoration & Habitat Mitigation
• Expert Testimony • Permitting

VIA E-MAIL

May 1, 2017

Town of West Hartford
Town Plan & Zoning/
Inland Wetlands and Watercourses Agency
50 South Main Street
West Hartford, CT 06107

RE: WETLANDS ASSESSMENT – *SUPPLEMENTAL*
178 Westmont Street, West Hartford, CT
REMA Job # 14-1747-WHT22

Dear Agency members:

At the request of the applicant, 188 Westmont Lot B, LLC, we inspected the above-captioned property today (i.e. 5/1/17) in preparation for our presentation of the residential development proposal before your Agency this evening, before the request to table the application and public hearing to your June 2017 regularly held meeting date and time.

We took a number of photographs which we will share with the Agency at the continuation of the public hearing. However, these are main observations:

1. None of the flagged intermittent watercourses (i.e. northern and southern) were running, or showed evidence of saturation, even with more than 1.2 inches of precipitation over the past 10 days.[1]

2. The central wetland pocket (i.e. Wetland A) had no surface water or saturation, that is, wetland hydrology, except in an area measuring roughly 6 feet by 10 feet.

---

[1] A total of 0.79 inches of precipitation were recorded at Brainard Airport, Hartford, on April 25th, through the 26th.

3. The northern wetland pocket (i.e. Wetland B) had no surface water or saturation, that is, wetland hydrology, except in an area measuring roughly 10 feet by 12 feet.

4. The eastern wetland pocket (i.e. Wetland C) only showed wetland hydrology within its lower elevation northern one third. This area was saturated to the surface of the ground.

5. The off-site wetland to the west (i.e. Wetland 1) exhibited wetland hydrology throughout its extent, including surface saturation and shallow inundation. Its outlet intermittent stream was found running or saturated but only to the eastern edge of the 25-foot-wide MDC easement, or to the brow of the slope. No flows or saturation within a stream channel were observed beyond this point or intermittent watercourse marker IWC-201.

We note that while Connecticut has experienced severe to extreme drought conditions over the past two years, according to NOAA (April 25 data), West Hartford is within the "abnormally dry" to "moderate" drought region (cumulative), but precipitation over the past three months has been just slightly below normal.

Invasive plants and non-native upland plants have continued to expand throughout the site, including within wetlands, and particularly Wetland A, and the upper (southern) one half of Wetland C.

Please contact us if you have any questions on the above.

Respectfully submitted,

Rema Ecological Services, LLC

George T. Logan

George T. Logan, MS, PWS, CSE
Certified Professional Wetland Scientist
Registered Soil Scientist
Certified Senior Ecologist

REMA

• Soil & Wetland Studies
• Ecology • Application Reviews
• Listed Species Surveys • GPS
• Environmental Planning & Management
• Ecological Restoration & Habitat Mitigation
• Expert Testimony • Permitting

VIA HAND DELIVERY

February 27, 2017

Town of West Hartford
Town Plan & Zoning/
Inland Wetlands and Watercourses Agency
50 South Main Street
West Hartford, CT 06107

RE: WETLANDS ASSESSMENT – *SUMMARY OF FINDINGS*
178 Westmont Street, West Hartford, CT
REMA Job # 14-1747-WHT22

Dear Agency members:

At the request of the applicant, 188 Westmont Lot B, LLC, REMA ECOLOGICAL SERVICES, LLC (REMA), has prepared this document to be submitted as part of an application before the Town of West Hartford Inland Wetlands and Watercourses Agency ("the IWWA," "the Agency").

1.0 INTRODUCTION & OVERVIEW

The applicant is proposing to construct a single-family residence on a vacant +/-0.84-acre parcel, at 178 Westmont Street, directly north of the 188 Westmont Street property, from which this lot (i.e. Lot B) was subdivided from a few years ago. The new residence will be served by public sewer and water.

There are several, small regulated resources on the subject parcel. Three wetland pockets (Wetlands A, B, and C) were delineated, as well as two intermittent streams (see Figure A, attached). Wetlands B and C are minor seasonal seeps, but their hydrologic regimes are also sustained by surface water flows, particularly from the overflow of an off-site wetland

and its watershed, and the "northern" intermittent stream that emanates from it (see Figure A).

Wetland A is a small, minor seep with transitional hydrology, which is also fed by the sump pump discharge from the residence at 188 Westmont Street to the north. A barely distinguishable intermittent watercourse connects Wetland A to Wetland C.

In order to build the single-family residence near the geographical center of the lot, a retaining wall is proposed, which would be up to 11 feet in height, to create a gentle grade for the house. This will necessitate impacts to Wetlands A and B (i.e. 1,010 square feet), and to about 435 linear feet of delineated intermittent watercourse. In addition, roughly 60 square feet of Wetland C would be impacted to create a planted berm at is far northern end, in order to address a long-standing flooding/icing issue on an adjacent residential driveway.

To compensate for the proposed wetland and watercourse impacts, a mitigation plan will create approximately 2,805 square feet of wetland habitat at three locations. In addition, the mitigation plan will create 435 linear feet of intermittent watercourse, as well as roughly 4,970 square feet of moist upland habitat in the vicinity of the created wetlands.

The civil engineer for the proposal, Mr. Darin Lemire, P.E., of Freeman Companies, LLC, has designed the stormwater drainage systems for the subject site, to be protective of downgradient properties. In fact, the proposed design will address several existing issues, including flooding/icing, and excessive off-site runoff.

This report is a *Summary of Findings* that provides a "description of the ecological communities and functions of the wetlands and the effects of the proposed activity" pursuant to Section 7.5 (i) (1 thru 3) and Section 7.6 (d, e, and g) of the most recent revision of the Inland Wetlands and Watercourses Regulations ("the Regulations") of the IWWA of the Town of West Hartford, adopted June 19th, 1974, and revised through April 1st, 2013, per the Inland Wetlands and Watercourses Act, Connecticut General Statutes Section 22a-36 through 22a-45, inclusive.

REMA visited the site, first on July 23rd, 2014, and then on May 1st, 2015, January 12th, 2016, and most recently on February 25th, 2017, to delineate the wetland boundaries and intermittent watercourses, and to obtain baseline wetland and upland data. REMA also cooperated with the project engineer, in planning the storm water management system and designing the wetland mitigation.

It should also be noted that appended to this report are several figures, depicting the site (i.e. Figures A, and 1 through 3), annotated photographs (Photos 1 through 21), and mitigation plan implementation notes and planting materials tables. REMA reviewed a variety of secondary source data, including archived aerial photographs for flight years 1934, 1951, 1965, 1970, 2004, 2007, 2012, and 2014, USGS topographic maps, the Soil Survey State of Connecticut (USDA-NRCS), and CT DEEP resource maps (e.g. surficial and bedrock geology, etc.).

Based on the review of the site, the site plans, and above-referenced documents, it is our professional opinion, that, after taking into consideration the positive effects of the proposed wetland mitigation, the proposed regulated activities will not have a net significant adverse impact on regulated resources, on-site or off-site, short-term or long-term.

2.0 SUMMARY OF FINDINGS

2.1 EXISTING CONDITIONS

2.1.1 <u>Site Overview</u>

- *The site location* is shown in Figure 1 (attached). It is in the west-central section of West Hartford, Connecticut, east of MDC Reservoir No. 2.

- *Site topography* drains easterly, and slopes are moderately steep (i.e. +/- 15%). The high point is at about elevation 338.0' at the parcel's northwestern corner, while the low point is at roughly elevation 305.0' at its northeastern corner.

- *The regional drainage basin* of the site is the Trout Brook (Basin 4403), and the closest perennial stream is roughly 0.2 miles to the southeast near the intersection of Upland Drive and Midlands Drive. The delineated intermittent watercourses on the site barely qualify per the Connecticut Statutes, since *"channel and bank"* are barely distinguishable. The notable exception is the first 30 to 40 feet of the northern watercourse as it enters the site from the west. We note that there is no direct connection via a watercourse from the site to any off-site watercourses or wetlands. While such a connection was likely the case before Westmont Street was constructed, this no longer the case. Surface flows from the site exit at the northeast corner as overland flow directly onto Westmont Street, or are infiltrated within the relatively coarse fill at the edge of the roadway at the same location.

- *Nearby land uses*. The subject parcel is within a residential zone with lots size averaging about 1 acre. With the exception of Canal Road, a private unimproved roadway owned by the MDC, there are no dedicated open space parcels nearby.

- *Vegetative cover types* include a wooded/scrub shrub swamp associated with the delineated wetlands, and a hardwoods upland woodland.

- The *water quality classification*, per CT DEEP of the closest perennial surface water resource (Tributary of Trout Brook) is "A" ("Good to excellent"). Similarly G*roundwater classification* at the site is 'GA', per the NEMO Community Resource Inventory (based on the CT DEEP Classification Map).

- The underlying *bedrock* is Holyoke Basalt (dark-gray, orange to brown weathering basalt; traprock). The only *surficial materials* present on the site, is shallow glacial till. *Soils* are all derived predominately from undisturbed till parent materials. Upland *soils* derived from melt-out till are mapped by USDA-NRCS as Wethersfield loam (88). Wetland-type soils are extremely stony, till-derived soils: Wilbraham and Menlo (6) soil series complex, according to the soil survey. We note that REMA has produced an "On-Site Soil Investigation & Wetland Delineation Report," dated 2/16/17, that has been separately submitted in support of a Town wetlands map amendment application.

2.1.2 Wetland Cover Types

- *The on-site wetlands* within the subject site (i.e. Wetlands A, B, and C) total about 3,197 square feet (i.e. 0.073 acres), of which Wetland C is the largest (i.e. 2,190 square feet). Wetland B and C are associated with an easterly flowing intermittent watercourse ("the northern watercourse;" see Figure A).

- Wetland B (540 square feet) is a poorly drained seasonal seep wetland, with *seasonally saturated* and *intermittently flooded* hydrologic regimes. No mature trees grow within the delineated wetland, but red maple and green ash were observed at the edges. The woody understory is moderately dense and includes spicebush and multiflora rose (invasive). Herbaceous species include wood aster, jack-in-the-pulpit, jewelweed, and poison ivy.

- Wetland C (2,190 square feet) is a poorly to very poorly drained wooded swamp, with *seasonally saturated* and *intermittently flooded* hydrologic regimes. While its hydrology incudes groundwater discharge (southern end) surface flows are the major component. Red maple dominates in the overstory. The shrub and herb layers are similar to those of Wetland B. This wetland receives surface runoff from several acres of watershed to the west, via the northern intermittent watercourse, but does not have a natural stream outlet, which was likely severed with the construction of Westmont Street. In fact, a portion of the wetland soils here (northern end) are disturbed (i.e. non-native).

- Wetland A is a small (470 sq. ft.), and isolated wetland pocket, centrally located on the subject lot. It owes its hydrology in part to seasonal groundwater discharge, but also to surface flows, and discharge from a sump pump associated with 188 Westmont. When the sump pump discharge ceases, only the eastern half of this wetland contains saturated soils. In fact the soils are mixture of moderately well drained and poorly drained soil types, but since this area supports a preponderance of hydrophytic vegetation it was flagged as a wetland/watercourse per the State Statutes. With the exception of one tupelo (i.e. black gum) tree, no other trees grow within this wetland. The woody understory is dominated by multiflora rose (invasive), European viburnum (non-native), and spicebush. Herbaceous species noted include jack-in-the-pulpit, jewelweed, wood aster, English ivy (invasive), poison ivy, trout lily, and sessile-leaved bellwort. Multiflora rose is fairly dense near this wetland and its immediate surroundings.

- *Wildlife and wildlife sign* were observed at the site: Carolina wren, downy woodpecker, chickadee, tufted titmouse, American crow (flyover), and deer and raccoon tracks and scat. A red fox was observed during our last inspection (i.e. 2/25/17) (see Photo 21). Additional wildlife, especially songbirds, is expected to use the overall site.

2.1.3 Upland Cover Types

- These were only briefly inventoried, but predominately include mature deciduous forest. Canopy closure approaches 85%, except in the southern portion of the site, where canopy is more open (Wetland Mitigation Area A will be situated here). Trees are typical of a mesic ecotype with hickories (bitternut and shagbark), maples (red, sugar), oaks (red, black), sycamore, cottonwood, green ash, hophornbeam, black cherry, and black birch. The wood stand is uneven aged and a few trees are more than 24-inches in dbh (diameter-at-breast-height).

2.2 Wetland Functions and Values

- **Wetland functions** and **values** were not formally assessed, mostly because the wetland resources or wetland ecological units are too small to be assessed using standardized evaluation methods (e.g. US Army Corps of Engineers' *Descriptive Approach* (1995). In fact, the wetlands and watercourses associated with the subject site offer little in the form of functions and values, including wildlife habitat. *Groundwater discharge* is present, and *floodflow alteration* is available at Wetland C, but is limited. For the most part, the northern watercourse and Wetland B function to convey the overflow of an off-site forested wetland to Wetland C.

- Neither *freshwater fisheries habitat* functions are present on-site, because only a minor intermittent stream is present

- *Filtration of sediment, attenuation of toxins, and uptake of nutrients and other pollutants* are functions that are provided by Wetland C, but to a limited extent; *opportunity* is present as nearby residential yards within Wetland C's watershed are sources of nutrients and road sediment, but *efficiency* is limited.

- Human use functions/values, such as *educational potential, aesthetic value* and *recreational Value* are very limited in these regulated wetlands, although present, but *uniqueness and heritage value*, and *endangered species function* are not present.

3.0 OVERVIEW OF POTENTIAL WETLAND IMPACTS

3.1 Direct Wetland Impacts

According to the submitted site plans, 1,070 square feet of *direct* wetland and 435 linear feet of intermittent watercourse impacts are associated with the proposal. Based on the fact that the wetland pockets to be disturbed (i.e. Wetlands A and B) are transitional in nature, very small, and offer little by way of recognized wetland functions and values, the proposed impacts are of low intensity and not significant. While "feasible" alternatives (i.e.

engineered solutions) to these minimal impacts exist[1], no feasible and "prudent" alternatives exist. In our opinion, denying the taking of at best minimally functioning resources, is not prudent, especially in view of the proposed mitigation plan, which shall not only offs-set the minimal impacts, but also provide a net-increase of wetland functions and values at the subject site.

3.2 INDIRECT WETLAND IMPACTS

Indirect or secondary impacts to a wetland or watercourse can occur as a result of activities outside of wetlands or watercourses. Such impacts can be *short-term* or *long-term*, and are typically associated with erosion and sedimentation, mostly during the construction period, the removal or disturbance of vegetation in upland areas but adjacent to wetlands or watercourses, the alteration of wetland hydrology or the flow regime of a watercourse, and the discharge of degraded surface water or groundwater, which may adversely impact the water quality of the regulated resources.

The potential for any of these indirect impacts to occur at the site as a result of the proposal depends on the regulated resources themselves, their sensitivity, and their ecological and physical characteristics. These potential impacts are discussed below.

3.2.1 Erosion and Sedimentation

The potential for soil erosion and subsequent deposition in wetlands or watercourses exists at every construction site that involves soil disturbance. At this site the risk or the potential for adverse impacts from erosion and sedimentation is considered to be low. The primary reasons for this assessment are as follows: (1) a erosion and sedimentation control plan is part of the submitted plans per the CT DEEP's 2002 *Connecticut Guidelines for Erosion and Sediment Control*; (2) the dominant soils in the areas to be graded and/or exposed have low to moderate erodibility; and (3) there is no outlet stream at this site, which could convey silted runoff to off-site wetlands and watercourses.

As an extra precaution, REMA recommends that in addition to a silt fence or haybale barrier, "silt socks" be utilized. These are 12-inch to 18-inch tubes filled with compost (minimum 2-year) that are placed downgradient of the primary barrier and upgradient Wetland C.

[1] A previous application (2014) approved a house in the southern section of the lot, very close to the roadway, without any direct wetland impacts. However, the house was up against Westmont Street, had very limited yard, and was not consistent with the character of the neighborhood.

3.2.2 Removal of Native Vegetation and Habitat Loss

Habitat loss associated with land clearing is an unavoidable consequence of land development, which has the potential of impacting wetlands and watercourses. At the subject site, however, the regulated resources are very limited in extent and are very low functioning, if at all. Therefore, the uplands do not contribute to the functioning of the regulated resources, as would for instance, the uplands adjacent to the off-site wetland to the west (see Figure A).

3.2.3 Potential Impacts to Wetland Hydrology and Stream Flow

The hydrologic and flow regime of the site's wetland is partially dependent on the site and its contributions to its hydrology, based on the observed seepage. However, Wetland C, which would not be directly disturbed, depends on contributions from upgradient of it (west) and its watershed. Nevertheless, groundwater and surface flows (and direct precipitation) do contribute to this wetland and, therefore, and effort was made, to ensure that sufficient flows continue to be directed to the wetland in the post-construction phase, and are designed into the proposed mitigation plan. For instance, groundwater intercepted within Wetland Mitigation Area A will be conveyed via a new watercourse channel to Wetland Mitigation Area B, before flowing into Wetland C, through a culvert under the proposed driveway. Similarly, the flows from the off-site wetland will be conveyed via new intermittent stream channel to Wetland Mitigation Area C, and then to Wetland C.

3.2.4 Potential Water Quality Impacts

Stormwater runoff from impervious surfaces and residential lawns has the potential of degrading the water quality (i.e. surface and groundwater) of regulated resources. Generation of potential pollutants on impervious surfaces typically results from vehicular traffic over them. The more the "axle-miles" or the movements of vehicles over impervious surfaces, the higher is the loading of runoff constituents, including sediment, nutrients, heavy metals, and the like.

However, the site will not be a generator of much in the way of runoff constituents, and more importantly, mitigative measures have been designed to attenuate runoff pollution and protect both on-site and off-site regulated resources.

For the site, the proposed stormwater management design includes two constructed shallow basins, as part of the wetland mitigation plan, which will also function to polish runoff from impervious surfaces (i.e., driveway and house roof) and the limited proposed lawn in the rear of the house. These are Mitigation Areas B and C, which will allow for settling of any particles in runoff and allow for attenuation via a variety of processes as a result of the soil amendments and plants to be incorporated here. In addition, Wetland C will be bermed at its northern end to address existing flooding/icing issues on Westmont Street and a residential driveway. This will extend the residence time of runoff here and allow for further polishing, without any detrimental effects to the wetland itself.

Therefore, the water quality of the receiving waters, including the any offs-site regulated resources, will be maintained.

4.0 MITIGATION

As discussed in an above, in order to off-set for direct impacts to wetlands, a comprehensive mitigation plan is being proposed, which includes 2,805 square feet (0.064 acres) of Wetland Habitat Creation, 435 linear feet of Watercourse Creation, and 4,970 square feet of Habitat Enhancement. The wetland creation is almost three times in extent to the wetland impact, and the types of habitats to be created are much more diverse and higher functioning that those that are being taken through the proposal. For instance, wet meadow and shallow marsh, which currently does not exist at the site, will be created in each of the three selected mitigation areas. Moreover, floristic diversity, through the proposed seed mixes, and other plating materials will introduce dozens of native species to the site, that do not presently exist here.

We note that much of the woody understory at the site is infested with invasive shrubs including Japanese barberry, Morrow's honeysuckle, firebush, and multiflora rose. The latter is especially problematic and has spread in the roughly three years that we have been visiting the site. In addition to the proposed wetland mitigation plans, which includes upland habitat enhancements, REMA recommends that all invasive plants, including herbaceous species such as garlic mustard, be eradicated from the site. Protocols for removal and control of invasives should follow those promulgated by the CT DEEP and/or the Nature Conservancy. Monitoring and control of invasives shall follow those for the Wetland Mitigation Plan, which is for three years following plan implementation.

A detailed narrative outlining the protocols for this effort can be seen on the submitted plans, and are also attached to this report.

REMA

5.0 CONCLUSION

It is our professional opinion that the proposal represents the feasible and prudent alternative in regards to direct and indirect, short-term and long-term impacts to wetlands and watercourses. There will be no significant or adverse impacts to regulated wetlands and watercourses, whether on-site or off-site, resulting from the proposed development of the subject site. Moreover, the proposed mitigation, consisting of wetland habitat creation, upland habitat enhancement, and invasive plant eradication and control, will not only off-set the direct wetland/watercourse impacts, but will also provide a net enhancement over existing conditions.

Please call us if you have any questions on the above.

Respectfully submitted,

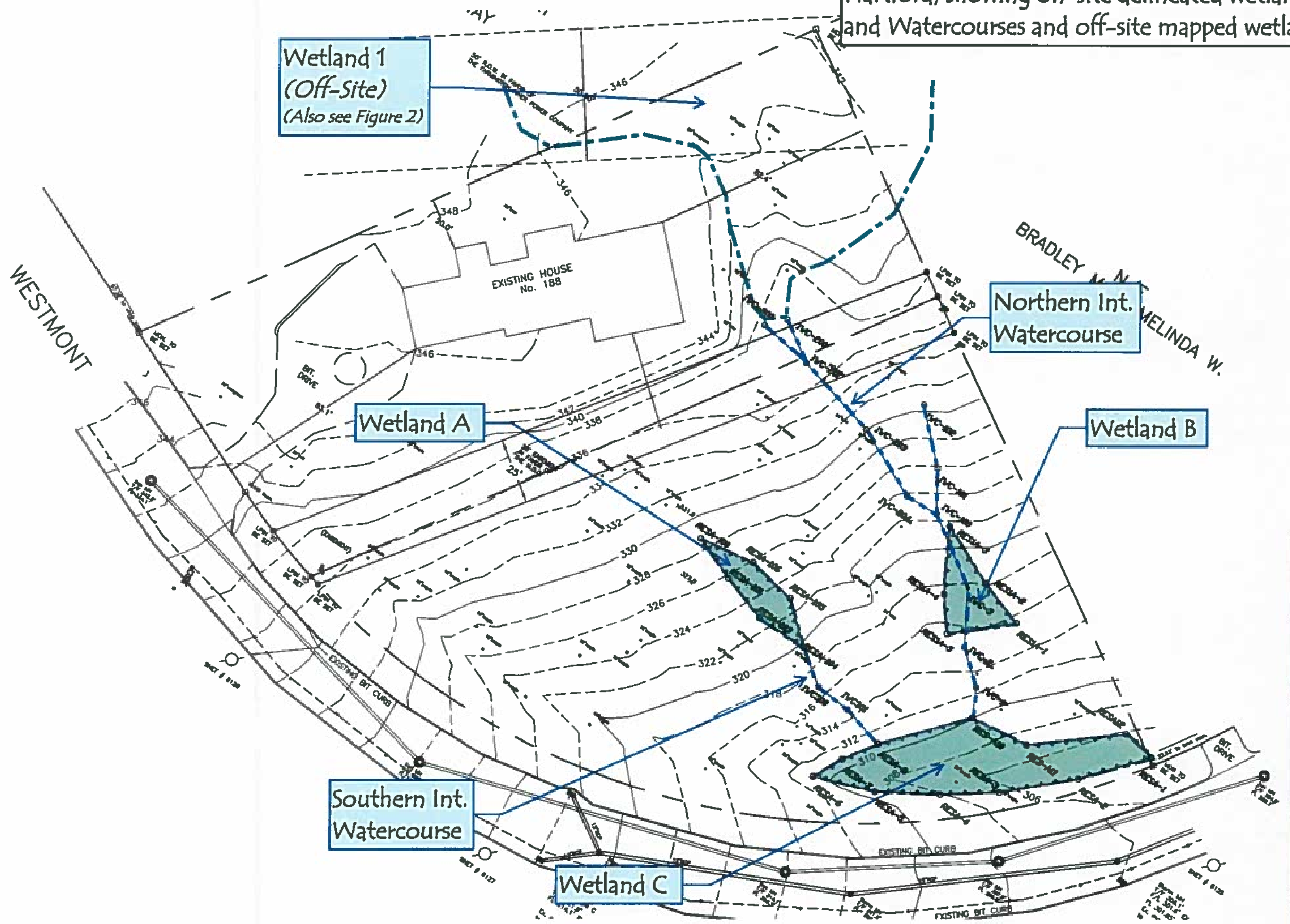
Rema Ecological Services, LLC

George T. Logan

George T. Logan, MS, PWS, CSE
Certified Professional Wetland Scientist
Registered Soil Scientist
Certified Senior Ecologist

Attachments: Figures A, 1 through 3; Annotated Photographs (1-21); mitigation plan (notes, tables)

FIGURE A: 178 Westmont Street, West Hartford; showing on-site delineated wetlands and Watercourses and off-site mapped wetland



PRODUCED BY: REMA ECOLOGICAL SERVICES, LLC
DATE: 2-27-17
SCALE: NTS

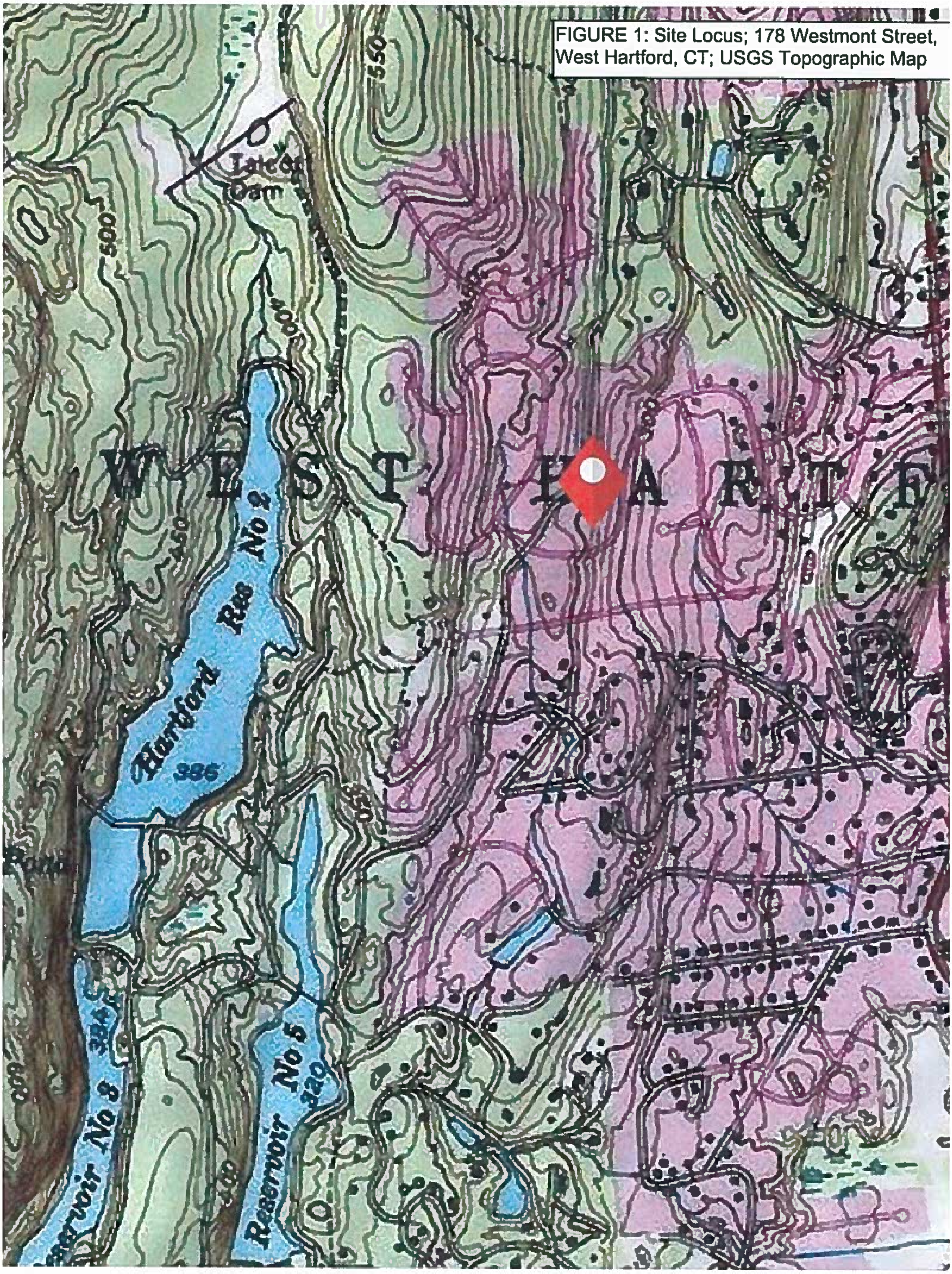


FIGURE 1: Site Locus; 178 Westmont Street, West Hartford, CT; USGS Topographic Map

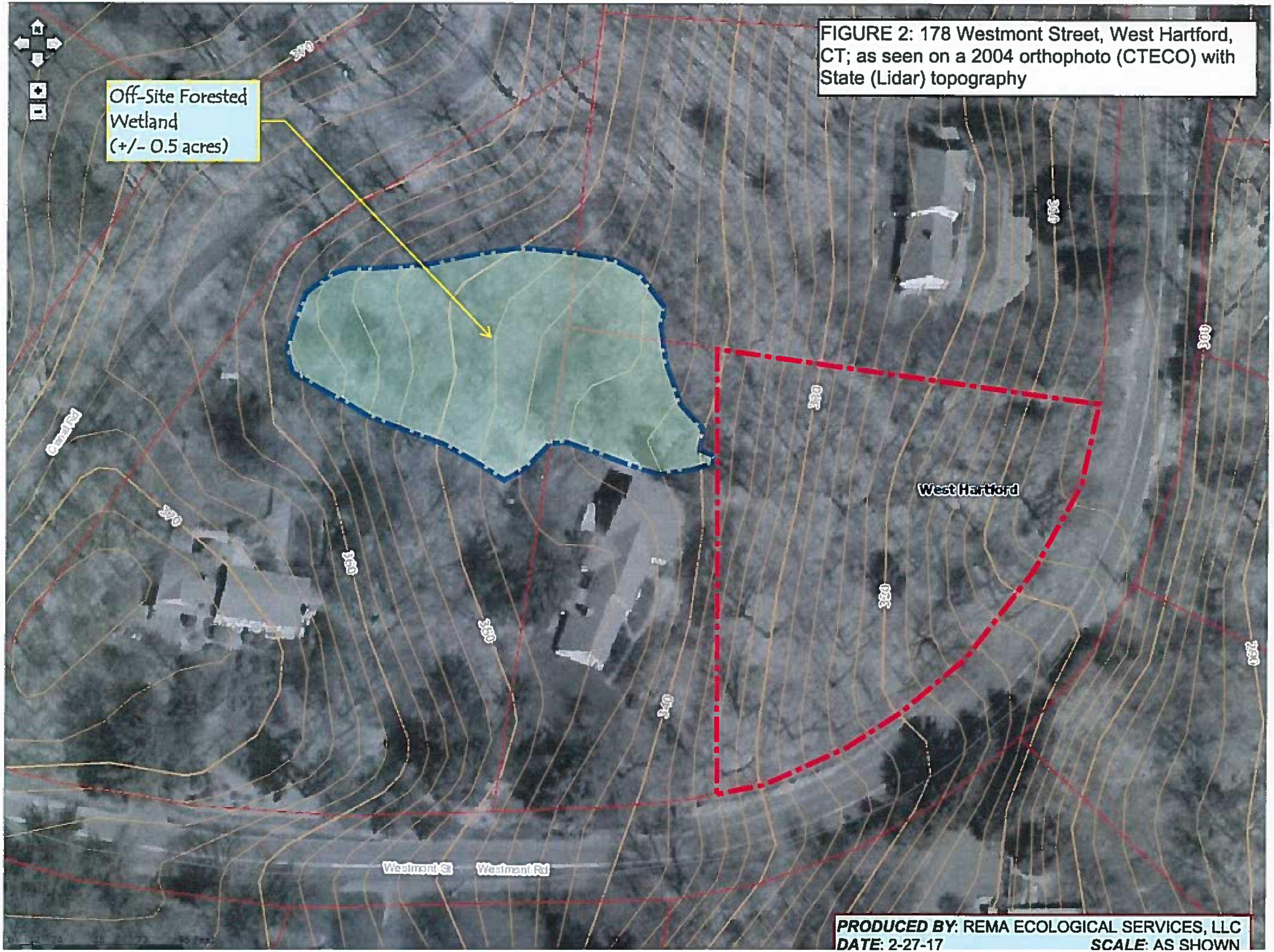


FIGURE 2: 178 Westmont Street, West Hartford, CT; as seen on a 2004 orthophoto (CTECO) with State (Lidar) topography
Off-Site Forested Wetland (+/- 0.5 acres)
West Hartford
Westmont St
Westmont Rd
Canal Rd
290
300
310
320
330
340
350
360
370
PRODUCED BY: REMA ECOLOGICAL SERVICES, LLC
DATE: 2-27-17
SCALE: AS SHOWN

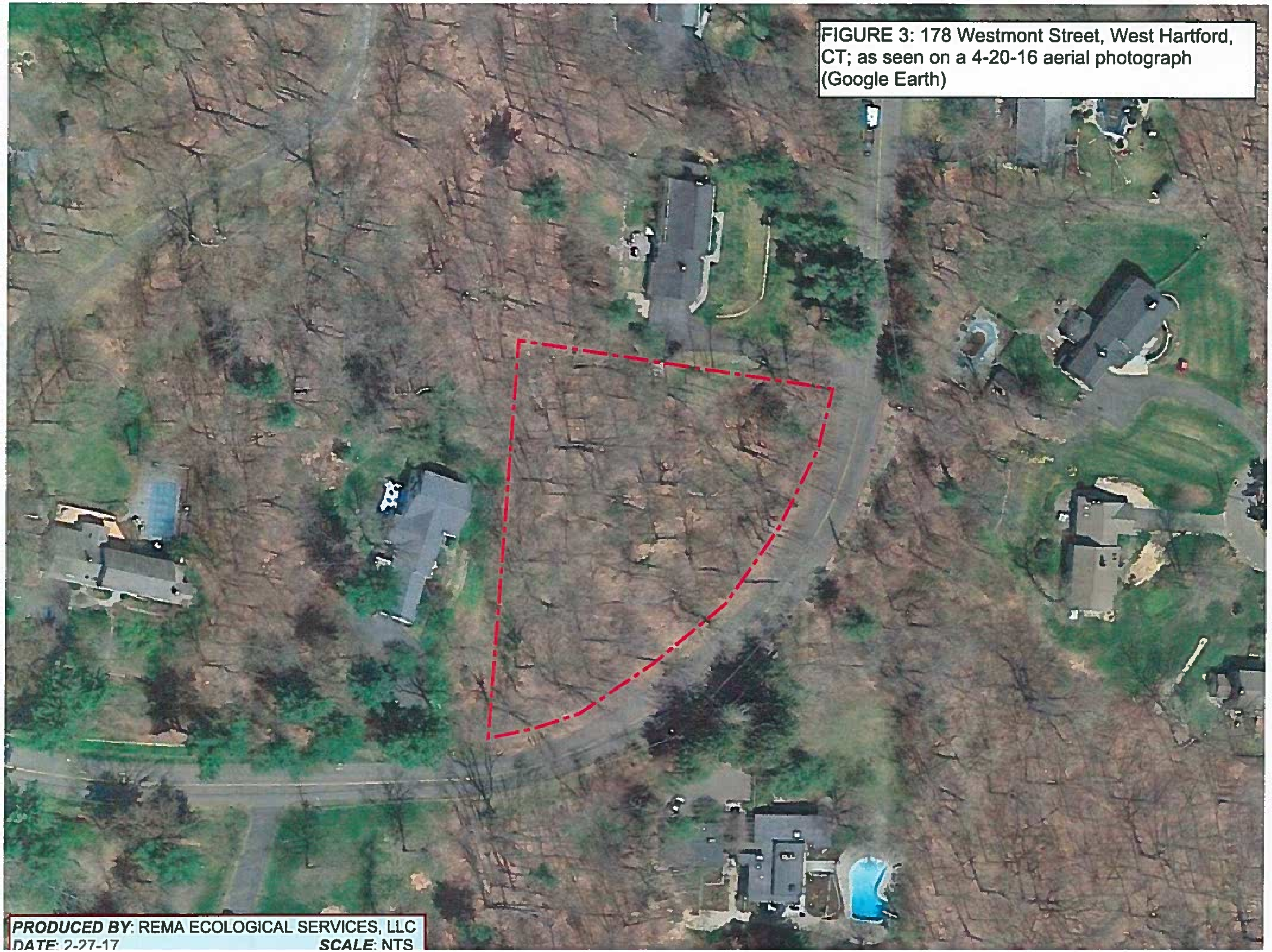


FIGURE 3: 178 Westmont Street, West Hartford, CT; as seen on a 4-20-16 aerial photograph (Google Earth)

PRODUCED BY: REMA ECOLOGICAL SERVICES, LLC
DATE: 2-27-17 **SCALE**: NTS

178 Westmont Street, West Hartford, CT
Photos taken 7/23/14, 5/1/15, 1/12/16, and 2/25/17, by REMA Ecological Services, LLC

Photo 1: Off-site wetland (Wetland 1) (see Figure 2) that overflows to subject site; 2/25/17; facing easterly

Photo 2: Overflow from Wetland 1, through MDC easement, onto subject site; 5/1/15; facing westerly

178 Westmont Street, West Hartford, CT
Photos taken 7/23/14, 5/1/15, 1/12/16, and 2/25/17, by REMA Ecological Services, LLC

Photo 3: Overflow from Wetland 1 forms the northern intermittent watercourse that flows through Wetland B to Wetland C; 7/23/14; facing westerly

Photo 4: Same watercourse as in Photo 3 on 2/25/17; flows stop a few feet into subject property; facing westerly

178 Westmont Street, West Hartford, CT
Photos taken 7/23/14, 5/1/15, 1/12/16, and 2/25/17, by REMA Ecological Services, LLC

Photo 5: Northern intermittent watercourse entering subject site; flows cease just past blue flag; 1/12/16; facing easterly

Photo 6: Wetland B; 2/25/17; facing northerly

178 Westmont Street, West Hartford, CT
Photos taken 7/23/14, 5/1/15, 1/12/16, and 2/25/17, by REMA Ecological Services, LLC

Photo 7: Wetland C; 2/25/17; facing northerly

Photo 8: Wetland C; 1/12/16; facing northerly

Photo 9: Wetland C; 7/23/14; facing easterly

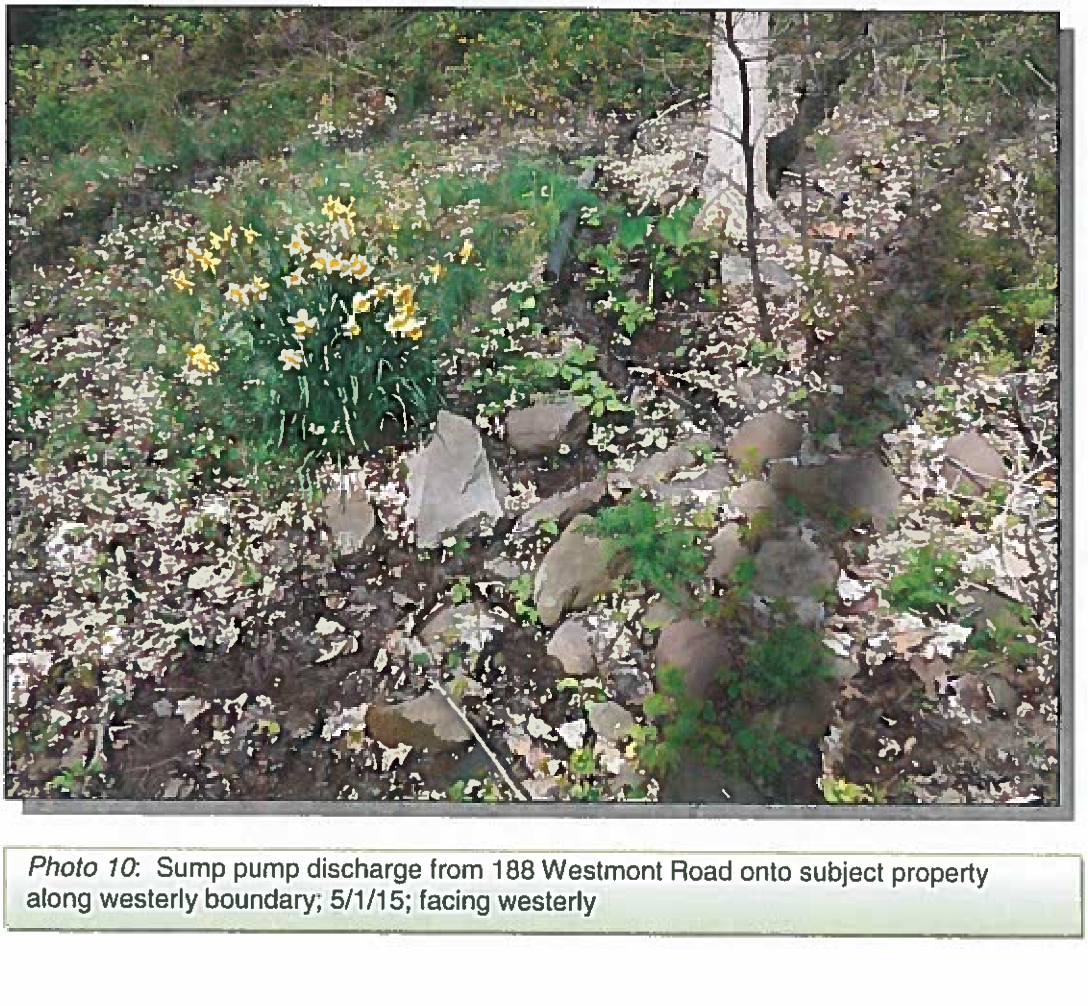


Photo 10: Sump pump discharge from 188 Westmont Road onto subject property along westerly boundary; 5/1/15; facing westerly

Photo 11: Same sump pump discharge as in Photo 10 with no flows; 2/25/17; facing westerly

Photo 12: Multiflora rose thicket immediately upgradient of Wetland A, and just below sump pump discharge; 2/25/17; facing northesterly

178 Westmont Street, West Hartford, CT
Photos taken 7/23/14, 5/1/15, 1/12/16, and 2/25/17, by REMA Ecological Services, LLC

Photo 13: Wetland A; upper portion; 2/25/17; facing westerly

Photo 14: Wetland A; lower portion; 2/25/17; facing northerly

Photo 15: Wetland A; lower portion; 7/23/14; note multiflora rose and European viburnum (with read berries); facing northerly

Photo 16: Location of intermittent watercourse channel flowing out of Wetland A to Wetland C; no flows at the time; 1/12/16; facing westerly

Photo 17: Wetland A; overall view; 5/1/15; facing northeasterly

Photo 18: Wetland Mitigation Area A; 2/25/17; mostly open overstory and woody understory is dominated by multiflora rose; facing northerly

Photo 19: Northern end of Wetland C, where a berm will hold water back that is now impacting neighboring properties; 2/25/17; facing easterly

Photo 20: Central uplands on site, at approximate location of proposed residence; 1/12/16; facing easterly

178 Westmont Street, West Hartford, CT
Photos taken 7/23/14, 5/1/15, 1/12/16, and 2/25/17, by REMA Ecological Services, LLC

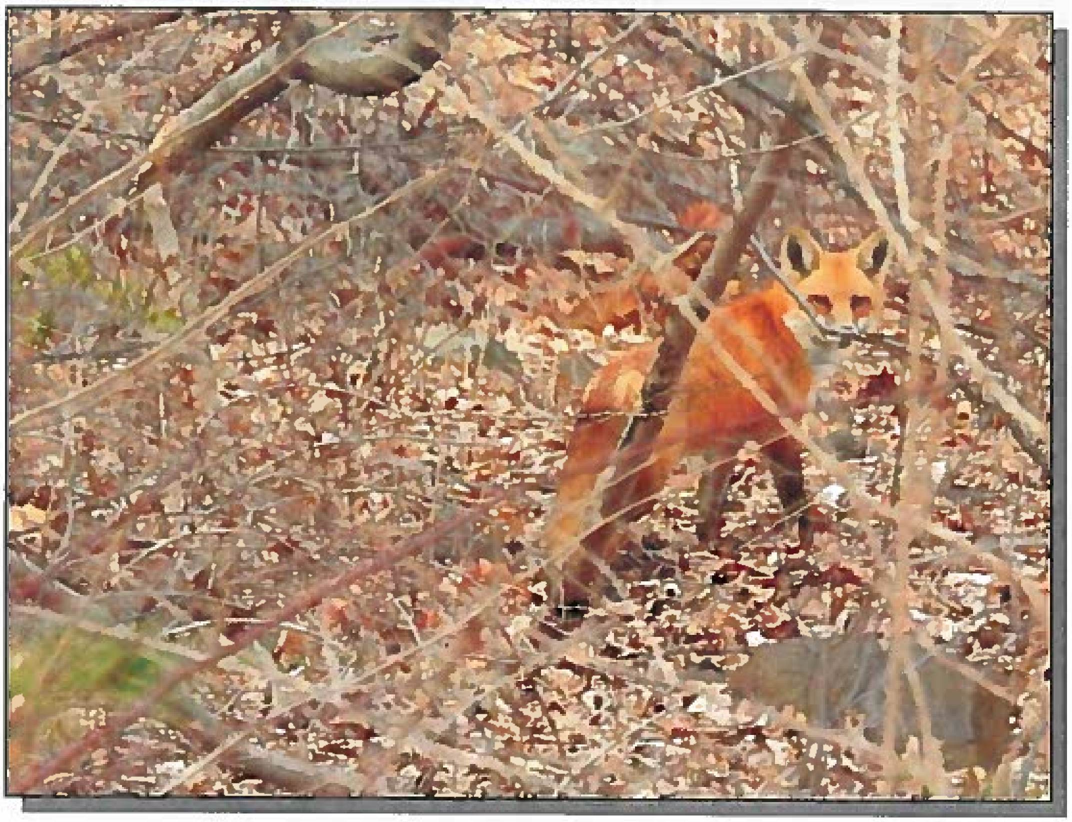


Photo 21: Curious resident observing us during our 2/25/17 site inspection

Catherine Dorau

From:	Todd Dumais
Sent:	Friday, April 28, 2017 10:22 AM
To:	'salvatore leone'
Cc:	Catherine Dorau; Darin Lemire; Ray Gradwell; REMA8@aol.com
Subject:	RE: drawings
Attachments:	Staff Comments.pdf

Sal,
Per our conversation, the revised plans still lack sufficient responses to most of the information previously requested. Please have your team provide our office with the following:

- Written responses to all previous staff comments (Engineering and Planning, both attached).
- Update the plans with the information previously requested in the staff comments.

I highly suggest having your professionals call us to request clarification on comments in order to avoided additional, incomplete or incorrect, information being resubmitted.

Best,

Todd Dumais
Town Planner
Town of West Hartford
Department of Community Development : Planning & Zoning Division
50 South Main Street | West Hartford CT 06107 | t 860.561.7556 | f 860.561.7504

From: salvatore leone [mailto:leoneconstruction@gmail.com]
Sent: Friday, April 28, 2017 7:36 AM
To: Todd Dumais <Todd.Dumais@WestHartfordCT.gov>
Cc: Catherine Dorau <cdorau@WestHartfordCT.gov>; Darin Lemire <dlemire@freemancos.com>; Ray Gradwell <rgradwell@freemancos.com>; REMA8@aol.com
Subject: RE: drawings

Good morning Todd,

Yes that would be greatly appreciated. Please phone me when you arrive to work , we can review what's missing.

Thanks very much for your time.

Best

On Apr 27, 2017 10:19 PM, "Todd Dumais" <Todd.Dumais@westhartfordct.gov> wrote:

> Sal,
> These plans do not appear to address many of my comments. I would be happy to discuss further in the morning.

Todd Dumais
Town Planner
Town of West Hartford
Department of Community Services: Planning & Zoning Division
50 South Main Street | West Hartford CT 06107 | t 860.561.7556 | f 860.561.7504

From: salvatore leone [leoneconstruction@gmail.com]
Sent: Thursday, April 27, 2017 6:08 PM
To: Todd Dumais; Catherine Dorau; Brittany Bermingham
Subject: Fwd: drawings

Hello Todd,

Attached is the revised plans. Please review and advise.

Thanks

---------- Forwarded message ----------
From: "Darin Lemire" <dlemire@freemancos.com<mailto:dlemire@freemancos.com>>
Date: Apr 27, 2017 5:41 PM
Subject: drawings
To: "salvatore leone" <leoneconstruction@gmail.com<mailto:leoneconstruction@gmail.com>>
Cc: "Ray Gradwell" <rgradwell@freemancos.com<mailto:rgradwell@freemancos.com>>

Sal

The revised drawings per Town comments are attached. Please forward to Todd at the Town for review.

Thanks
Darin

[Freeman-email-tag]

Darin Lemire, P.E.
Project Manager

36 John Street, Hartford, CT 06106
MBE | DBE | SBE | SBA 8(a) Certified
P 860-251-9550 Ext 1020<tel:(860)%20251-9550> | Direct 860-929-9199<tel:(860)%20929-9199>
dlemire@freemancos.com<mailto:dlemire@freemancos.com> www.freemancos.com<http://www.freemancos.com/>

TOWN OF WEST HARTFORD

RECEIVED
MAR 30 2017
PLANNING & ZONING DIVISION
Town of West Hartford, CT

MEMORANDUM

TO: Todd Dumais, Town Planner

FROM: DJM Duane J. Martin, P.E., Town Engineer

RE: 178 Westmont
Inland Wetlands and Watercourses Application No. 1063

DATE: March 30, 2017

The Engineering Division reviewed the 178 Westmont Inland Wetlands and Watercourses Application No. 1063 dated February 17, 2017 and offer the following comments:

1. There is a significant amount of regrading (elevation cutting) on the site to accommodate the house, wetland mitigation areas, retaining walls, and drainage swales. Please provide a calculation of the volume of cut material that will be removed from the site.

2. The proposed retaining wall ranges in height from 4 feet to over 10 feet. Provide a detail for the proposed wall construction. Also, will measures be incorporated with the proposed retaining wall to protect from a fall?

3. Given the amount of site disturbance, a single row of silt fence may not be sufficient along the edge of the roadway. The Wetlands Assessment recommends Silt Socks, but they are not shown on the plans.

4. How will the proposed house be served with utilities (sewer, water, gas, electric, cable, and telephone)?

5. Provide a detail for the asphalt curbing and roadway trench restoration. The Town will require 9 inches of compacted processed aggregate base under 4 inches of compacted Superpave 0.375 asphalt. The trench will require one foot cutbacks beyond the limits of drainage or utility trench with sealing of the pavement joints.

6. Were soil borings performed on the site to determine the water table elevation or the presence/depth of rock below the surface given the proposed depth of cut?

7. This application proposes a significant amount of disturbance to this site, including in areas of existing wetlands. This disturbance includes the redirection of some of the site's drainage flow from the northwest corner in a counterclockwise direction to the

Todd Dumais

From: Todd Dumais
Sent: Friday, April 21, 2017 10:14 AM
To: 'leoneconstruction@gmail.com'
Cc: Catherine Dorau
Subject: RE: 178 Westmont - Supplemental Information

Good Morning Sal,
Please find the following comments from the Planning Division for your consideration:

1. To facilitate the IWW Map Amendment review, the following items should be addressed or clarified:

   a. Wetland Map Amendment Plan shall be relabeled. Suggested plan title: Wetland Map Amendment
   b. More clearly depict and label the both the existing and proposed wetlands boundaries on all sheets.
   c. More clearly depict and label the proposed 150' upland review area boundary on all sheets. On only the Wetlands Map Amendment sheet, more clearly depict and label the existing 150' upland review area boundary.
   d. More clearly depict and label the existing watercourse on all sheets.
   e. A colorized version of the Wetlands Map Amendment may allow for the best graphical depiction of the above noted comments.
   f. Please provide a chart on the Wetlands Map Amendment that summarizes the total square footage/acreage of the following:
      1. Existing and proposed wetlands area in s.f.
      2. Existing and proposed watercourse areas in s.f.
      3. Existing and proposed 150' upland review area in s.f.
   g. Reference to the names and addresses of all abutting property owners shall be provided on the plan. Abutters include property / property owners across Westmont.

2. To facilitate the IWW Regulated Activity, the following items should be addressed or clarified:

   a. The limits of total site disturbance shall be depicted on sheets C-1 and EC-1.
   b. The Wetlands Mitigation Plan does not depict the S&E Controls described in the Mitigation plan notes.
   c. The plans do not provide sufficient information regarding tree removal. A plan identifying trees to remain / be removed shall be included with (type and size of trees noted.
   d. Since a significant amount of activity is proposed within and proximate to regulated wetlands and watercourses, the application should include a detailed discussion about what, if any, Feasible and Prudent Alternatives, were considered in the process of developing the submitted plans. Staff notes that there is one footnote regarding Feasible and Prudent alternative mentioned in the Wetlands Assessment, (that being the existing wetlands approval for construction of a home onsite) but no other discussion or examination of those alternatives is provided.
3. General Comment: Please remove the Subdivision (TPZ Commission) signature block from all sheets.
4. General Comment: Please provide a building height calculation for the proposed house. (Note a proper height calculation methodology was previously forwarded in a 2.23.17 email)

All of the above-listed comments should be addressed by way of a modified plan set submission no later than Thursday, April 26th.

Todd Dumais

Catherine Dorau

From: Catherine Dorau
Sent: Thursday, April 27, 2017 9:45 AM
To: 'leoneconstruction@gmail.com'
Cc: Todd Dumais; Brittany Bermingham
Subject: 178 Westmont - Neighborhood outreach

Sal,
Please note the discrepancies (in red below) in the neighborhood outreach list. Emails we received are noted in *blue* and will be included in the packets to the TPZ.
Regards,

Catherine Dorau
Associate Planner
Town of West Hartford
Department of Community Development: Planning and Zoning Division
50 South Main Street, Room 214 | West Hartford, CT 06107 | ph 860.561.7554 | f 860.561.7504

From: salvatore leone [mailto:leoneconstruction@gmail.com]
Sent: Thursday, April 27, 2017 4:21 AM
To: Catherine Dorau <cdorau@WestHartfordCT.gov>; Brittany Bermingham <Brittany.Bermingham@WestHartfordCT.gov>
Subject: Neighborhood outreach

Hello Catherine,

Please see list below. Lin Congdon has spoken to these neighbours and I had a detailed conversation with the immediate neighbour Eric Bezier.
Some have emailed comments and all have been in favor of this project. Thanks

Best

Mike & Carrie Stockman, 350 Westmont (as of 4.26.17 - Record owner listed as James and Carolyn Stockman)

Steve & Sharon Conway, 200 Westmont (Record owner listed as only Sharon Conway)

Karen Kuwanda, 195 Westmont (No record of # 195 – Record owner of 165 is Clinton Kuwada & Karen Piorkowski – did you mean 165?)

Jerome & Marcia Howard, ~~193~~ 181 Westmont - *P&Z received email 4.20.17*

Stephanie & David Moran, 201 Westmont - *P&Z received email 4.23.17*

Gerry & Linda Rosa, 160 Westmont

Eric & Natalie ~~Bezler~~ Belzer, 168 Westmont

Nancy ? Melly , ~~181~~ 193 Westmont - not sure of her last name and she isn't in our neighborhood directory

Myron & Linda Congdon, 188 Westmont - *P&Z received email 2.26.17, enclosed in packets to TPZ*

Hannah Bernard, 220 Westmont

Bob Riley, 157 Westmont

4/24/17 S. Levine
T. Dumais
B. Bermingham

Catherine Dorau

From: Stephanie Moran <stephaniemmoran@comcast.net>
Sent: Sunday, April 23, 2017 10:44 PM
To: Catherine Dorau
Subject: 188 Westmont

Hi, Ms. Dorau --

I am writing to express my support of the development plan for the lot adjacent to 188 Westmont.

I live at 201 Westmont, across the street from the planned construction. Mrs. Congdon shared the plan with me, and my husband and I both feel that the new home will be situated in such a way that is in keeping with the neighborhood. We hope that the home's design and construction will also match the neighborhood and contribute positively to its aesthetic appeal.

Thank you for your work on this.

Very truly yours,
Stephanie Moran

Sent from my iPad

4/24/17 S. Leone
T. Dumais
B. Birmingham

Catherine Dorau

From: mhoward <mhoward@mindspring.com>
Sent: Thursday, April 20, 2017 8:18 PM
To: Catherine Dorau
Subject: Re new construction 178 Westmont St WestHartford

To whom it may concern:
We are the owners of 181 Westmont St, WestHartford,Ct Recently we were given a schematic drawing of a proposed new home construction at 178 Westmont St. The drawing indicates that the proposed house construction will be located at the property closer to 168 Westmont St. The driveway entrance/exit will be located closer to the 168 Westmont property. We are in agreement with this proposal. Any driveway cut directly across from our driveway at 181 would present a serious safety hazard as the upper and lower curves in the Westmont street present challenging situations for entry and exit to our property. We would not support construction of the proposed house and driveway closer to 188 Westmont St. and directly across from our driveway.

Sincerely,
Marcia and Jerome Howard

2/27/17 C: S. Leone

Catherine Dorau

From: Linda Huntting Congdon <linhunttingcongdon@gmail.com>
Sent: Sunday, February 26, 2017 3:03 PM
To: Catherine Dorau
Subject: 178 Westmont Street, West Hartford

Hi Catherine,

We understand that Sal Leone is in the process of applying to make changes to the plan we had approved by the Planning & Zoning Commission several years ago for 188 Westmont (Lot B) now known as 178 Westmont.

Both Myron and I believe his plan is a big improvement over the previously approved one, both for the land itself and for the neighborhood. The changes he is proposing make sense to us and we support his application for development.

Thank you.

Linda Huntting Congdon
Myron Congdon
188 Westmont Street
West Hartford, CT 06117
(860) 670-7683

Catherine Dorau

Subject: FW: 178 Westmont Application Submittal 2/17

From: Catherine Dorau
Sent: Tuesday, February 21, 2017 9:44 AM
To: 'Darin Lemire' <dlemire@freemancos.com>
Cc: Todd Dumais <Todd.Dumais@WestHartfordCT.gov>; 'leoneconstruction@gmail.com' <leoneconstruction@gmail.com>; REMA8@aol.com; Brittany Bermingham <Brittany.Bermingham@WestHartfordCT.gov>
Subject: RE: 178 Westmont Application Submittal 2/17

Hello Darin,
Thank you for the link.

These are observations from your initial submission and additional information we'll need:

1. The Map Amendment application should be amended (either submit a revised new form or amend and initial the existing) – the "Brief Description of Proposed Activity" should read an amendment to the existing wetland map based on an on-site soil survey prepared by a professional soil scientist.
2. The existing conditions plan title should read "Wetland Map Amendment" . This map should show the existing wetlands per the Town map and include the revised 150 ft. regulated area). It is suggested the contour layer be removed and the soil types be identified this map.
3. A DEEP form should be submitted for the map amendment.
4. The application is for a regulated wetland activity – therefore, the TPZ subdivision signature block should be removed from any sheet that has it.
5. Clarification on a plan which trees will be removed.
6. A breakdown of how the fees were determined should be provided.
7. A wetland impact assessment study – addressing in particular the Wetland Regulations - Section 7.5 d, e, f, g, i. (1,2,&3), m.; 7,6 d, e, f, & g. Also review Section 10 – considerations for decision, in particular, Section 10.2.

This information should be submitted by noon Monday, February 27th (or by Friday if possible) to be included with information to the CEC for their evening meeting on 2.27.17.

Please contact me if you have any questions.
Best Regards,

Catherine Dorau
Associate Planner
Town of West Hartford
Department of Community Development: Planning and Zoning Division
50 South Main Street, Room 214 | West Hartford, CT 06107 | ph 860.561.7554 | f 860.561.7504

Brittany Bermingham

Forwarded on 3.28.17 to: S. Leone
C Dorau
T Dumais

From:	Brittany Bermingham
Sent:	Tuesday, March 28, 2017 11:18 AM
To:	'leoneconstruction@gmail.com'
Cc:	Catherine Dorau; Todd Dumais
Subject:	FW: 178 Westmont, IWW#1063 R1-17- Application resubmittal-revised construction sequence plan

Hi Sal,

Please see the comments from the West Hartford/Bloomfield Health District below. Because of the resubmitted application for 178 Westmont and additional information regarding the sequence of construction events and plans document, we asked for an additional review.

Thank you,
Brittany

From: Bob Proctor
Sent: Tuesday, March 28, 2017 11:13 AM
To: Catherine Dorau <cdorau@WestHartfordCT.gov>
Cc: Todd Dumais <Todd.Dumais@WestHartfordCT.gov>; Brittany Bermingham <Brittany.Bermingham@WestHartfordCT.gov>; Aimee Eberly <Aimee.Eberly@WestHartfordCT.gov>
Subject: 178 Westmont, IWW#1063 R1-17- Application resubmittal-revised construction sequence plan

Cathy,

There is no change in our response dated 3-6-17. The resubmittal is acceptable.

Bob Proctor, RS
West Hartford Bloomfield Health District
3-28-17

Health District's response on 3.6.17:

Cathy,

We have reviewed IWW #1063 including the narratives, plan sets and drainage report and generally have no issue with the information provided, only that a home constructed on this parcel be connected to the MDC sanitary sewer and water lines located in Westmont Drive.

Bob Proctor, RS
West Hartford Bloomfield Health District
3-6-17

Forwarded on 3/30/17 to:
S. Leoso
C. Dorau
T. Dumais

Brittany Bermingham

To: Matt Macunas
Subject: RE: CEC Meeting Materials

From: Matt Macunas [mailto:matt.macunas@gmail.com]
Sent: Thursday, March 30, 2017 10:21 AM
To: Catherine Dorau <cdorau@WestHartfordCT.gov>
Cc: Scott Sebastian <scott_sebastian@comcast.net>; Brittany Bermingham <Brittany.Bermingham@WestHartfordCT.gov>; Todd Dumais <Todd.Dumais@WestHartfordCT.gov>
Subject: Re: CEC Meeting Materials

We did not have quorum for a formal meeting but heard the applicant out anyway. The new information they provided was a sequenced plan for how they will minimize adverse wetland impact so that it only happens during certain construction phases, as they terraform it (my term not theirs) into a "higher performing" wetland/watercourse channel.

The applicant conveyed that they expect to go in front of P&Z in May.

Matt

178 WESTMONT ROAD, WEST HARTFORD, CONNECTICUT

SEQUENCE OF CONSTRUCTION

PHASE 1: IMPLEMENTATION OF WETLAND MITIGATION PLAN (AREAS A, B & C)

1. ROUGH STAKEOUT OF SWALES, WETLAND MITIGATION AREAS, AND PROPERTY LINES.

2. MARK OUT TREES AND VEGETATION TO REMAIN OUTSIDE OF WETLAND MITIGATION AREAS DURING PHASE 1. PROTECT AS NEEDED.

3. INSTALL ALL SOIL EROSION AND SEDIMENT CONTROL (SESC) MEASURES AS SHOWN ON PLAN FOR PHASE 1. SESC MEASURES TO INCLUDE SILT FENCE AND/OR HAY BALES ON PERIMETER OF EXISTING WETLANDS TO BE PRESERVED DURING PHASE 1.

4. CLEAR VEGETATION AND GRUB WITHIN AREAS DESIGNATED FOR WETLAND MITIGATION AREAS A, B & C, AND THEIR CONNECTING SWALES (I.E. SWALES A, B, & C) (PHASE 1). THIS INCLUDES CONSTRUCTION ACCESS TO THESE AREAS.

5. EXCAVATE/GRADE WETLAND MITIGATION AREAS (A & B) AND SWALES CONNECTING THESE MITIGATION AREAS.

6. INSTALL PLANTINGS AND SEED WETLAND MITIGATION AREAS (A & B) PER THE WETLAND MITIGATION PLAN.

7. EXCAVATE WETLAND MITIGATION AREA C AND SWALE C FROM TOP OF SLOPE TO THIS MITIGATION AREA.

8. INSTALL NATIVE STONE IN ALL SWALES (I.E. A, B, & C) INCLUDING CHECK DAMS PER THE PLAN.

9. INSTALL PLANTINGS AND SEED MITIGATION AREA C PER WETLAND MITIGATION PLAN.

10. INSTALL CULVERT AT DRIVEWAY SO MITIGATION AREA B OVERFLOWS INTO EXISTING WETLANDS.

11. STABILIZE ANY DISTURBED AREAS BY SEEDING PER PLAN AND/OR OTHER MEASURES (E.G. HAY STRAW).

12. DEMOBILIZE FROM SITE.

PHASE 2: HOUSE, DRIVEWAY & STORMWATER MANAGEMENT

13. A MINIMUM OF SIX MONTHS AFTER WETLAND MITIGATION PLAN IMPLEMENTATION, OR THE FOLLOWING GROWING SEASON, RETURN TO THE

SITE (INSPECTION OF WETLAND MITIGATION AREAS WOULD HAVE TAKEN PLACE IN THE INTERVENING TIME PER THE PLAN).

14. INSPECT EXISTING SESC MEASURES, MAINTAIN AS NECESSARY, AND INSTALL ANY ADDITIONAL SESC MEASURES PER PLAN FOR PHASE 2.

15. CLEAR VEGETATION AND GRUB WITHIN AREAS DESIGNATED FOR HOUSE CONSTRUCTION (PHASE 2).

16. INSTALL CONSTRUCTION ENTRANCE.

17. EXCAVATE REAR OF SITE FOR RETAINING WALL INSTALLATION. INSTALL WALL AND WALL DRAINAGE INCLUDING UNDERDRAINS FEEDING WETLAND MITIGATION AREAS.

18. EXCAVATE AREA FOR HOUSE FOUNDATION.

19. POUR FOUNDATION.

20. INSTALL REMAINING STORMWATER MANAGEMENT FEATURES PER PLAN.

21. INSTALL UTILITIES INCLUDING WATER AND SANITARY.

22. CONSTRUCT HOUSE.

23. CONSTRUCT DRIVEWAY.

24. STABILIZE ALL CUT OR DISTURBED AREAS WITH TOPSOIL, SEED, AND MULCH. SEED BLANKETS AND HYDRO-SEEDING MAY BE REQUIRED.

25. DURING PHASE 2, CONTINUE INSPECTING/MONITORING WETLAND MITIGATION AREAS PER THE PLAN, AND IMPLEMENT ANY REMEDIAL ACTIVITIES (E.G. RE-SEEDING, RE-PLANTING) AS NECESSARY.

26. PRIOR TO UNBLOCKING YARD DRAINS, CLEAN ANY SEDIMENT TRAPS OR TEMPORARY SEDIMENTATION BASINS, AND REMOVE SEDIMENTS AND UNDESIRED VEGETATION, ESPECIALLY INVASIVE PLANT SPECIES. SEED OR MULCH ACCORDING TO LANDSCAPE PLAN.

27. REMOVE EROSION CONTROL MEASURES UPON COMPLETE STABILIZATION OF SITE.

28. CONTINUE TO MONITOR WETLAND MITIGATION AREAS FOR THE FULL THREE YEARS AFTER IMPLEMENTATION PER PLAN SPECIFICATIONS.